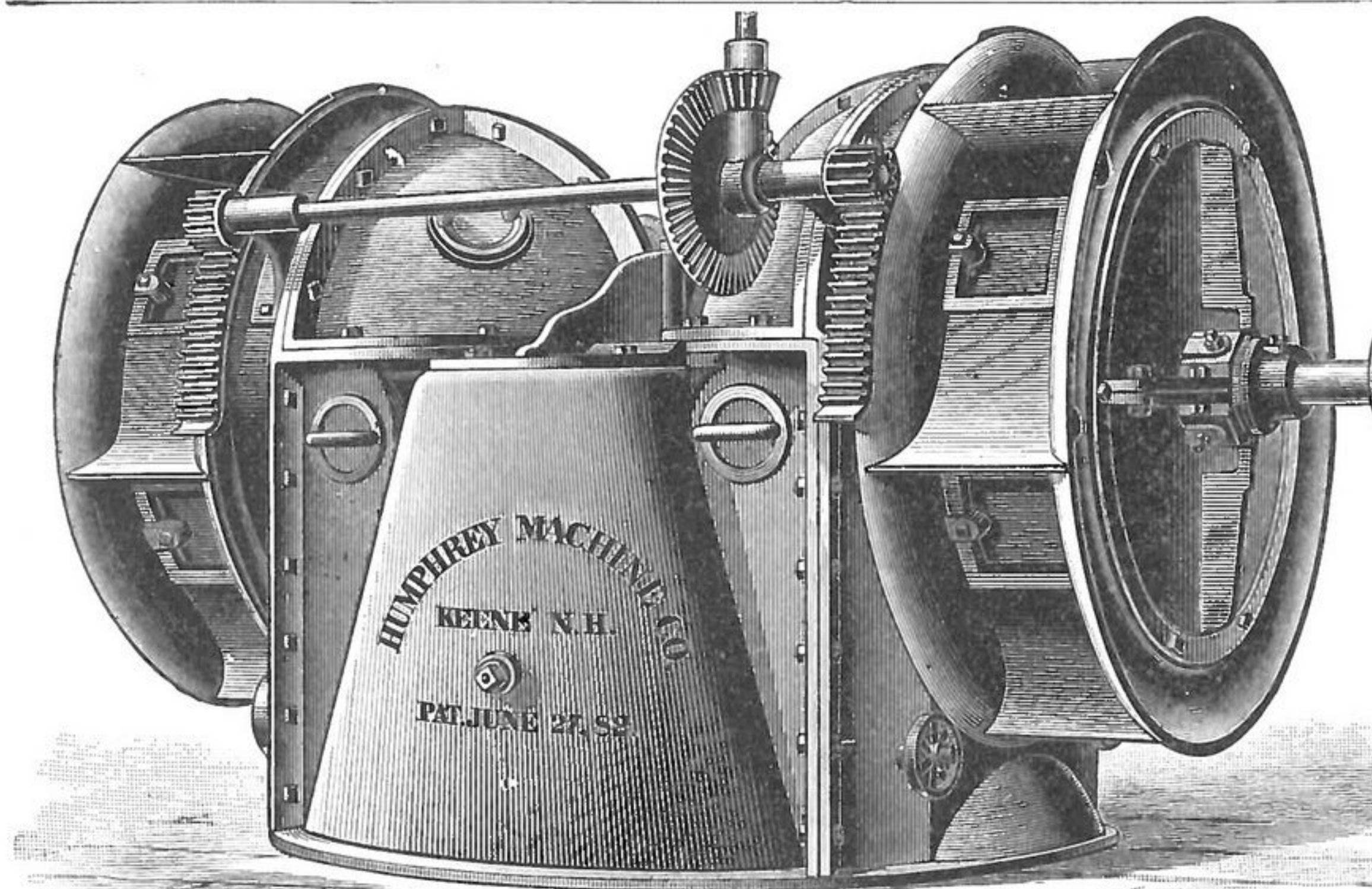


PUBLISHED EVERY MONDAY MORNING.

VOL. XXII. No. 16.

BUFFALO, N. Y., JUNE 16, 1890.

\$1.50 PER YEAR.



**THE X-L-G-R OR  
CIRCUMSHOT  
Water Wheel**

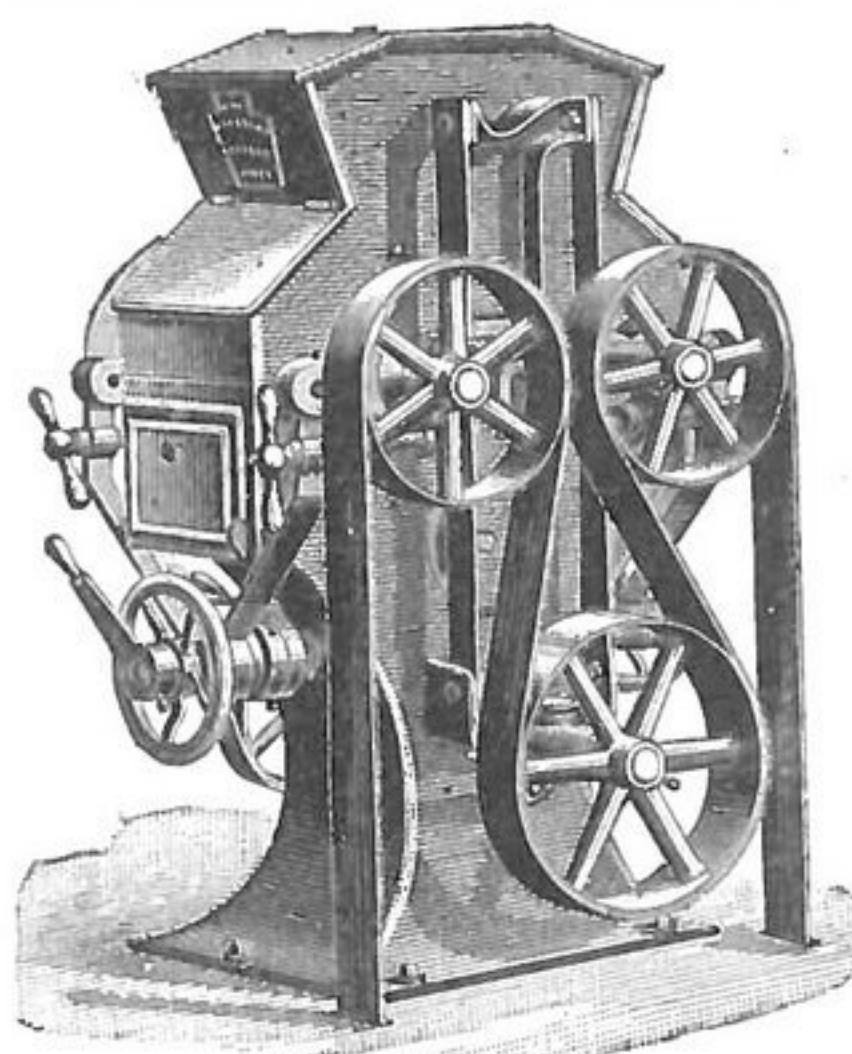
On Horizontal Shaft. Saves cost, annoyance and loss of power incident to use of gears. Affords more available power from water applied at full or part gate than any other. The cheapest, best and most desirable Water Wheel yet produced.

EFFICIENCY,  
ECONOMY and  
EXCELLENCE FULLY GUARANTEED.

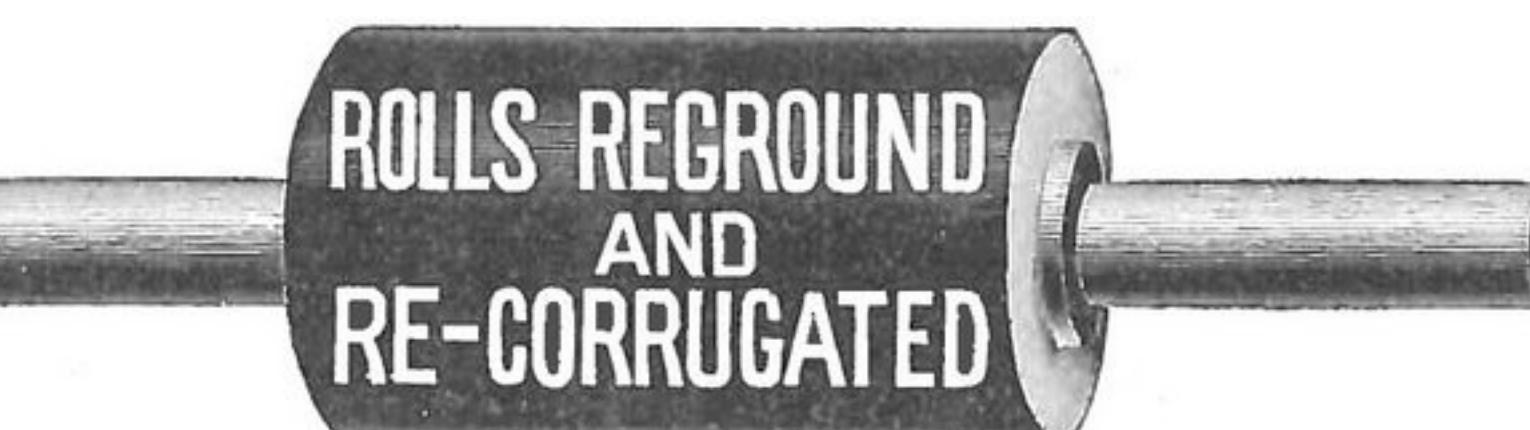
**Humphrey Machine Co  
KEENE, - - N. H.**

**SHORT SYSTEM FLOUR MILLS.**

Unparalleled Results.



"KEystone" 4-ROLLER MILL.



By the "Keystone" Roll Grinder, Manufactured by Ourselves. The only machine that will Grind Rolls Absolutely True.

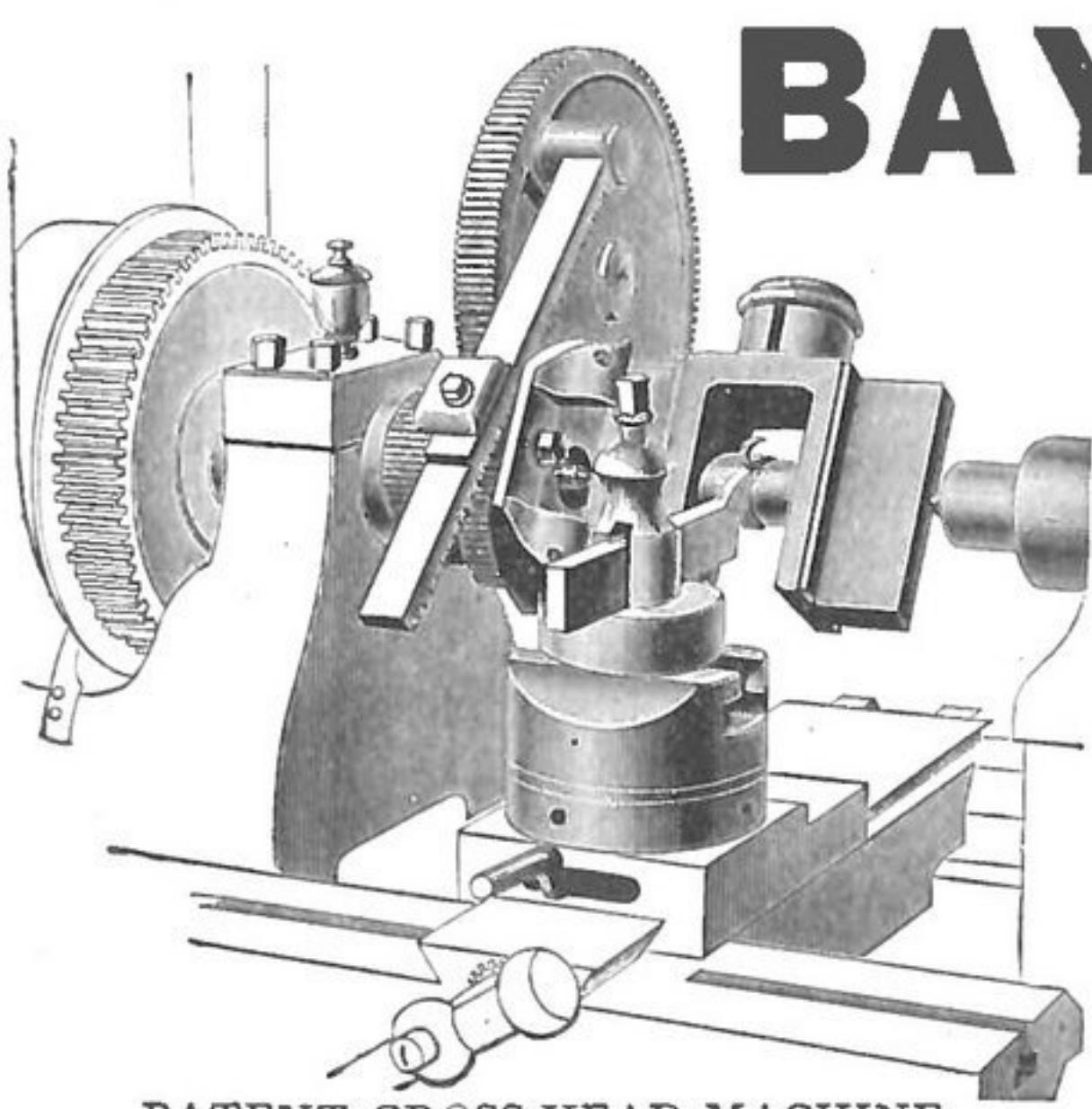
**ADDRESS THE J. B. ALLFREE CO., 76 to 78 Shelby Street, INDIANAPOLIS, IND.**

**BAY STATE IRON WORKS**

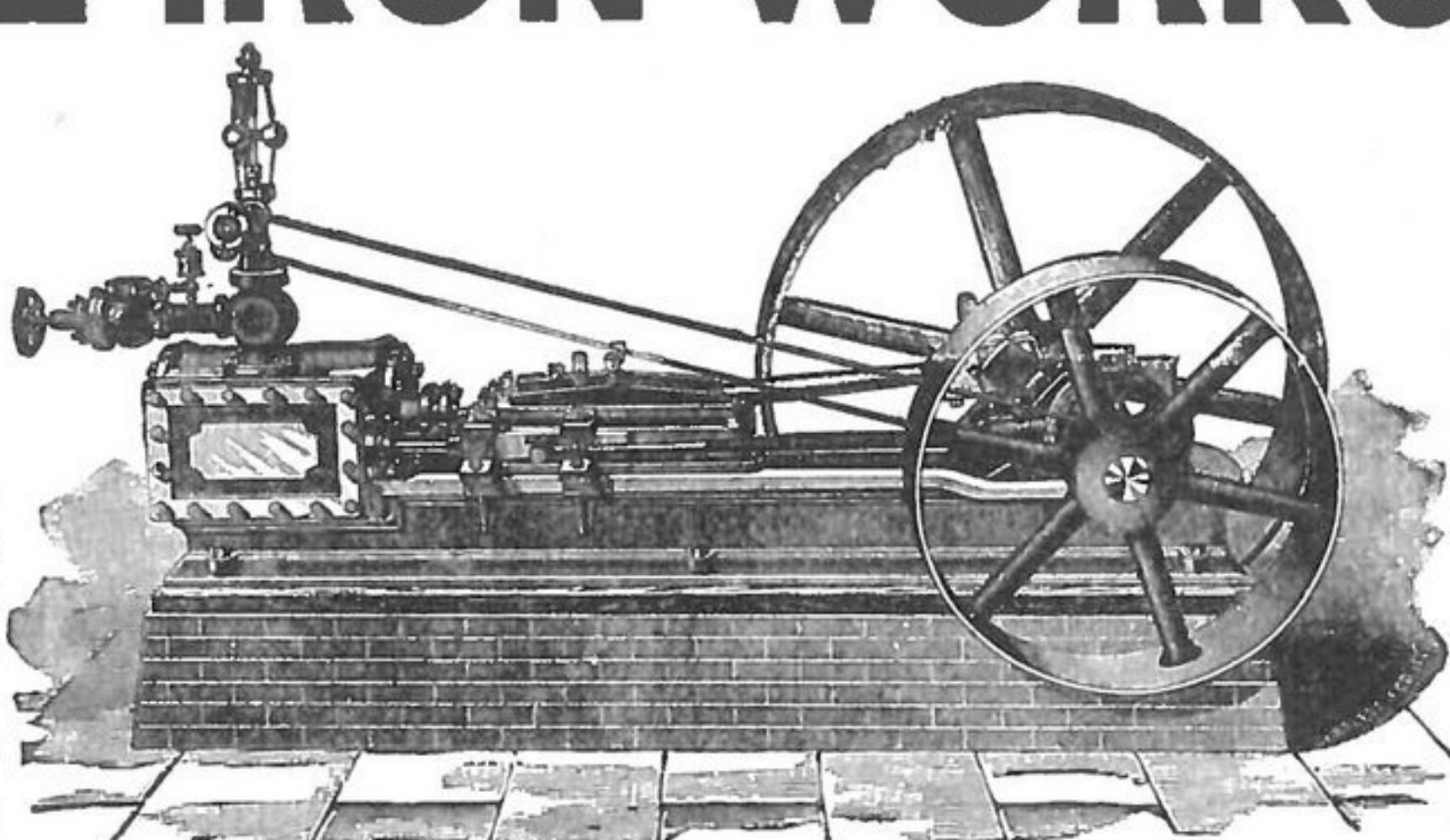
— Manufacturers of —

**Engines, Boilers,  
AND  
HOISTING MACHINES.**

Also the Patent Cross-Head Machine and Acme Cube Pipe Tongs. We make either Center or Side Crank Engines, on same bed. Make engines from 5 to 250 Horse-Power. Have over 3,500 Engines and Boilers and over 1,000 Hoisting Machines in use, and all giving good satisfaction. Send for Catalogues and Prices.



PATENT CROSS-HEAD MACHINE.



IMPROVED DETACHABLE CENTER-CRANK ENGINE.

**Noble & Hall, Box 462, Erie, Pa.**

OFFICE OF  
**CASE MANUFACTURING COMP'Y**  
 COLUMBUS, OHIO.

**The Case Roller Mills. Over 14,000 Pairs in Use.**

**PLEASE READ OUR DESCRIPTION OF THEM, EVERY STATEMENT OF WHICH IS ABSOLUTELY TRUE.**

**PLEASE READ WHAT MILL OWNERS SAY ABOUT THEM.**



The accompanying cut is a correct illustration of our latest improved Four Roller Mill. For fine work, great durability, simplicity, and general excellence, they stand "head and shoulders" above all others.

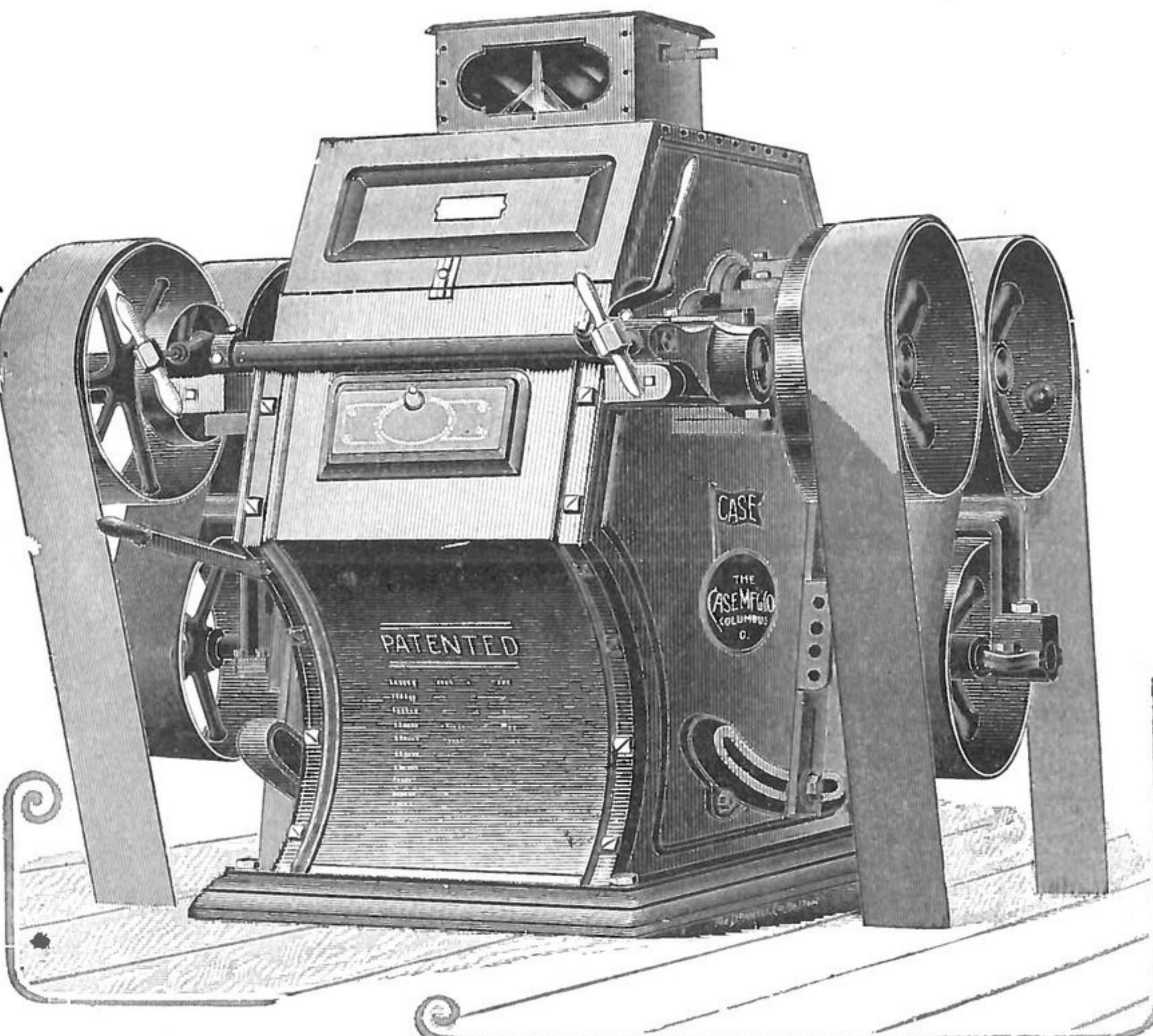
The frame is of iron with a heavy iron base.

The wood-work in top is of select cherry and black walnut, carefully shellacked and varnished.

The handles of adjusting screws and levers are finely nickel plated.

The joints are tight and dustless.

The adjustments easy, simple and perfect.



The roll bearings are wide and finely babbitted.

The belt drive is positive—no little short belts to slip.

The door for examining stock is a great convenience.

The arrangement for leveling rolls, simple and accurate.

The rolls can be thrown apart their entire length by one movement of the lever, and brought back again to original position, requiring no re-setting or experimenting.

Each machine is provided with our AUTOMATIC VIBRATING FEED, which requires no attention, and never fails to spread the feed the entire length of the rolls.



**Please Read These Testimonials.**

LITCHFIELD MILLING CO., MANUFACTURERS OF FLOUR. }  
 LITCHFIELD, ILL., Sept. 14, 1889. }

*Case Manufacturing Co., Columbus, Ohio.*

GENTLEMEN: We are in receipt of your favor of the 11th inst., and in reply would say we have twenty CASE AUTOMATIC FEEDS on our Dawson and Allis Rolls, and we are greatly pleased with them. We have tested the Feeds thoroughly on different materials, and find they work as well on bran and germ and other soft materials, as they do on middlings. We have derived great benefit from the use of them, and can cheerfully recommend them to the milling fraternity. Yours truly,

J. C. EDWARDS, General Manager.

OFFICE OF A. J. MILLER, PROPRIETOR WHITE ROSE MILLS.  
 DEALER IN FLOUR, GRAIN AND MILL FEED.  
 METAMORA, IND., Nov. 19, 1889. }

*Case Manufacturing Co., Columbus, Ohio.*

GENTLEMEN: Your Feed arrived O. K., and placed it in working order in a very short time. You have furnished me a daisy Feed. After regulating your Feed, it needs no more attention. It pays for itself in one week over the "Roller Feed" in cleaning up the

stock, and also insuring the superiority at same time. I forward you the amount of bill.

Yours truly, A. J. MILLER.

TREZEVANT, TENN., Feb. 27, 1889.

*The Case Manufacturing Co.*

GENTLEMEN: We have five double stands of Rolls with Roller Feeds on all of them. A short time ago one of your agents induced us to try one of your Automatic Shaker Feeds. We find that it works much better than the Roll Feed, distributing the material the whole length of the Roll. We heartily recommend your feeds to any one wishing to put in new machinery.

Respectfully yours, FUQUA, HARRIS & CO.

W. C. MANSEFIELD & CO., MERCHANT MILLERS. }  
 CLEVELAND, TENN., Aug. 29, 1889. }

*Case Mfg. Co., Columbus, O.*

GENTLEMEN: If we were to build a hundred mills, we would not permit any other than the "CASE ROLL" to enter them. They are the best roll on earth. Yours truly,

W. C. MANSFIELD & Co.



CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XXII. No. 16.

BUFFALO, N. Y., JUNE 16, 1890.

\$1.50 PER YEAR.

SOME person has informed the Minneapolis and St. Paul newspapers that the convention of the Millers' National Association in Minneapolis this week will attract "1,000 millers"! Wonder who the prophet is? Whence will come all the 1,000 millers?

THERE is a prospect that the flour-barrel-voting clause in the proposed new constitution of the "National" will excite bitter opposition. A more ridiculous clause was never conceived. If it be adopted, it will result in the destruction of the "National." Possibly the arrogant mismanagers may find enough opposition to the clause to induce them to drop it.

ACCORDING to our Chicago cotemporary, "The American Miller," the editors of the Minneapolis "Yahoo" failed to induce the Tri-State millers in convention assembled at Fort Wayne to pass a "resolution" praising that disreputable sheet. Possibly the "Yahoo" will be able to "work in" the "resolution" at Minneapolis this week, as its chosen friends are in supreme control of the "National."

THE Tri-State convention of millers recently held in Fort Wayne, Indiana, was a brilliant success, and to our Indianapolis cotemporary, "The Millstone," much credit is due for the success. Naturally enough, the Minneapolis "Yahoo" dislikes to see credit given to the "Millstone." At the same time that is where it belongs, and the "Yahoo" can not belittle the credit by lying about the convention.

MILLING journalists will be numerous in Minneapolis this week. Most of them have large bumps of pugnaciousness, and certain ones among them are inclined to disputatiousness. We hope no "scrap" will mar the festivities when journalists meet, that White Winged Peace may spread her pinions over all opposing opinions, and that the convention will leave no journalistic cadavers to await identification in the Minneapolis Morgue.

AMONG the new advertisers introduced to our readers in this issue are Messrs. Schaffer and Budenberg, No. 40 John street, New York, N. Y., and No. 18 South Canal street, Chicago, Ill. They manufacture a full line of high-grade wares, including pressure gauges for all purposes, engine counters and registers, improved re-starting injectors, exhaust-steam injectors, pyrometers, thermometers, steam-traps and other indispensable steam fittings. Address them for copies of their latest priced and illustrated circulars and catalogues. Correspondence with them will pay.

FROM a Winnipeg letter of 31st May, written by a gentleman whose position should make him well informed, we gather that the crops around that city are looking very well. "Between Brandon and Winnipeg the country is in splendid condition. The season is somewhat backward, but that makes little difference as we have had lots of rain lately. It is claimed that there are over 800,000 acres of land under crop this year. If this be true, 35 bushels to the acre, which would be an average crop, means a yield of 20,000,000 bushels. It is a little early, however, to talk of these matters

with the fear of drouth and August frosts before us." —Toronto "Monetary Times." At the risk of stirring up some inflammable Canadian, we will ask for authority for claiming that 35 bushels "would be an average crop" of wheat in Manitoba. That average never has been and never will be reached in Manitoba, all the falsifiers in the Dominion to the contrary notwithstanding. A yield "average" of 35 bushels on 800,000 acres would mean 28,000,000, not 20,000,000 bushels. Of course, an error of 8,000,000 bushels is of no consequence in boom figures, meant to deceive the public.

EMIGRATION Commissioner A. J. McMillan, representing Manitoba in Toronto, Canada, in a communication too long for publication, takes exception to some utterances of THE MILLING WORLD on Manitoba, accusing us of falsification. The letter is a booming defense of Manitoba, and its statements are curiously conflicting. Mr. McMillan insists that the Manitoba average yield of wheat is far superior to that of Minnesota, the Dakotas, Wisconsin and Iowa, using the United States "average" on this side, which represents what is actually gathered from all the acreage sown, while in Manitoba the acreage sown is reduced in making out the "average" by the amount not reaped. This method will do for trickery, but it is mere trickery. He quotes yields of 33 and more bushels to the acre in special cases in Manitoba, but he refuses to make the same allowances for the "average" in Manitoba that are made on this side of the border. He quotes the Iowa average for ten years at 11.3, Nebraska at 11.8, Wisconsin at 12.5, Dakota at 13 and Minnesota at 14.7 bushels per acre, and yet in all these States there are just as many special cases of 20 to 35 bushels to the acre as Manitoba can show. He insists that "Manitobans who can speak with authority have not expected 20,000,000 bushels of wheat" a year, this in reply to a quotation of ours, in which Premier Greenway of Manitoba was reported as "expecting 20,000,000 bushels of wheat this year." The worst misrepresentation Mr. McMillan makes is his denial that Manitoba suffers from winds and backward conditions this year, while Minnesota and the Dakotas do! He says Iowa and the other States mentioned can not approach the Manitoba "average," and "not one can excel, probably not equal, in quality." Last year Manitoba "averaged" 7 to 9 bushels to the acre, and according to London and Liverpool market figures the American wheat, the best of which did not reach England, stood higher in market quotations than the Canadian wheat. He sets down the acreage of Manitoba this year at 1,000,000 acres, or more, and thinks Manitoba is the "storehouse of this continent," quoting approvingly from a St. Paul paper an expression of a presumable boomer. We see in the letter no proof that our assertions have been unjust to Manitoba. We have always admitted, and do now admit freely, the great capabilities of the Northwest under favorable conditions, but we do not believe the conditions are always favorable, Mr. McMillan to the contrary notwithstanding. If his booming statements are all true, it seems not a little singular that Manitoba has lost so many of her immigrants in the past ten years. We repeat that we think exaggeration will hurt Manitoba rather than help it. We disapprove of booming on either side of the line.

# The DAWSON ROLL WORKS CO.

## FOUNDERS & MACHINISTS,

—MANUFACTURERS OF THE—

# Dawson Roller Mills

—AND FURNISHERS OF—

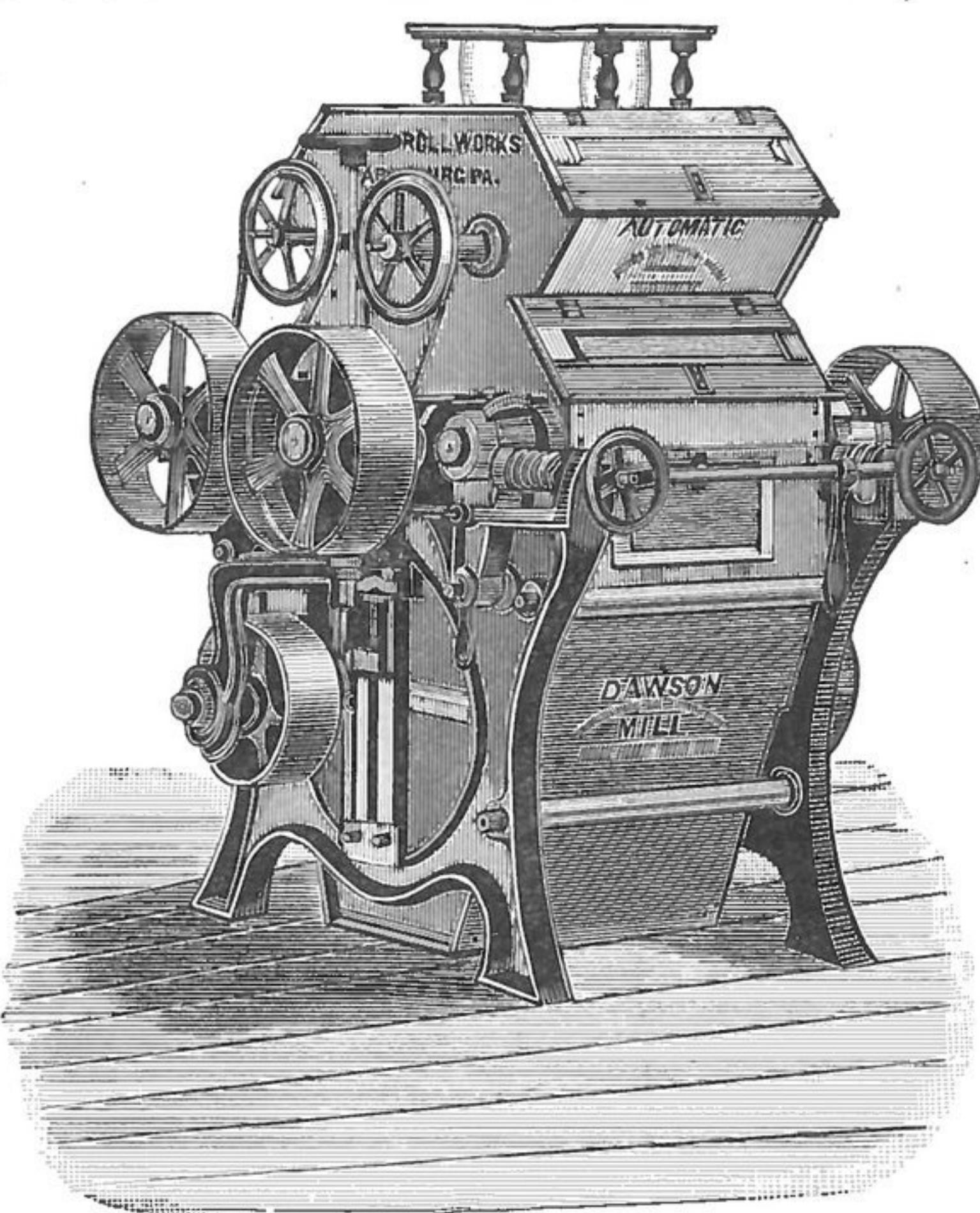
## CHILLED IRON ROLLS

WITH DAWSON PATENT CORRUGATION.

ALL STYLES OF FLOUR MILL ROLLS RE-GROUND AND RE-CORRUGATED WITH ANY FORM OF CORRUGATION.

We have had large and extended experience in grinding and corrugating chilled rolls for milling, and have one of the largest and most improved plants in the country for this work, which enables us to meet the most exacting requirements of the trade promptly.

ORDERS AND CORRESPONDENCE SOLICITED.



# DAWSON ROLL WORKS CO.

South and Short Streets,

HARRISBURG, PA.

# The Cowles "Reliable" Sectional Wood Pulley

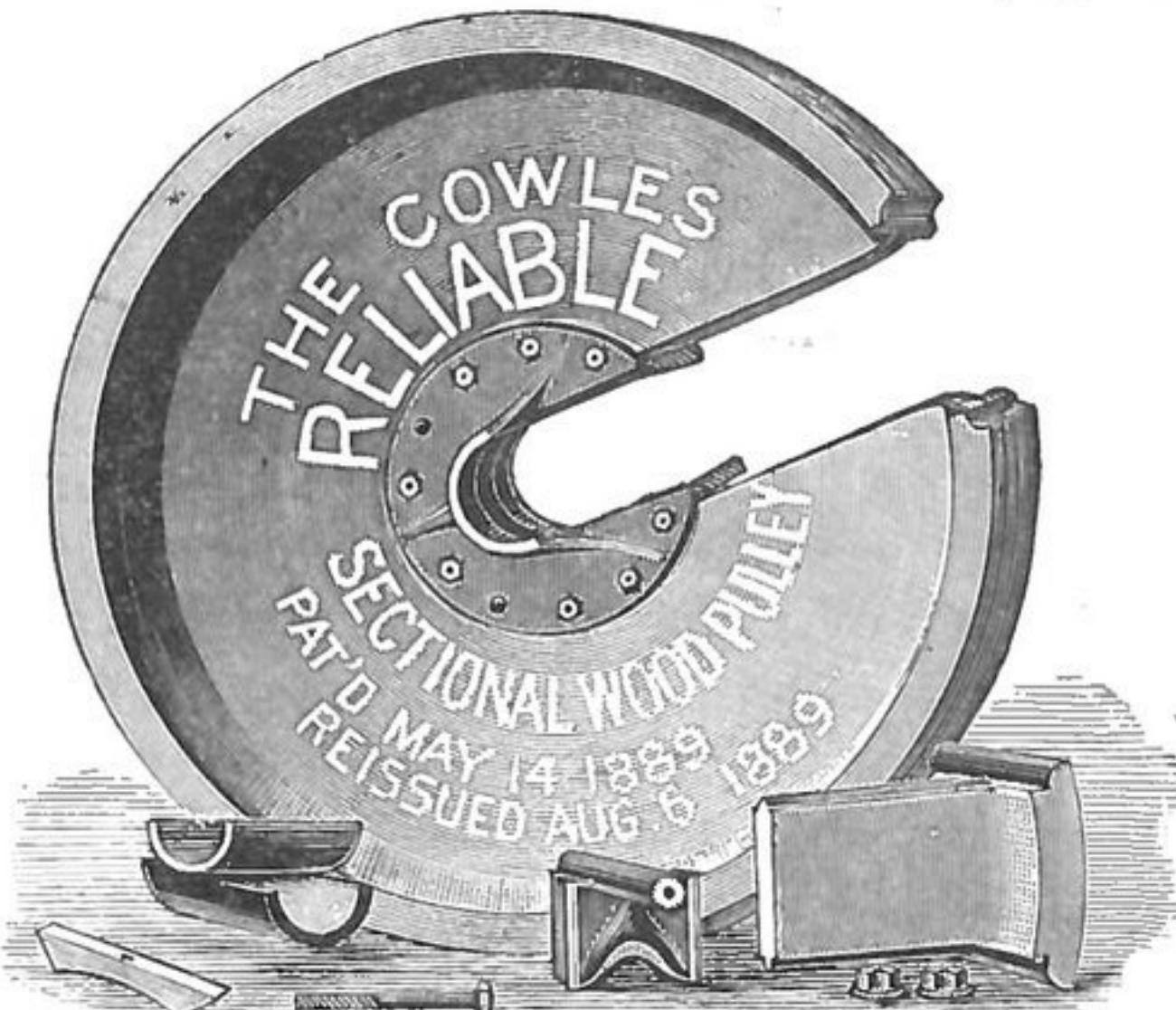
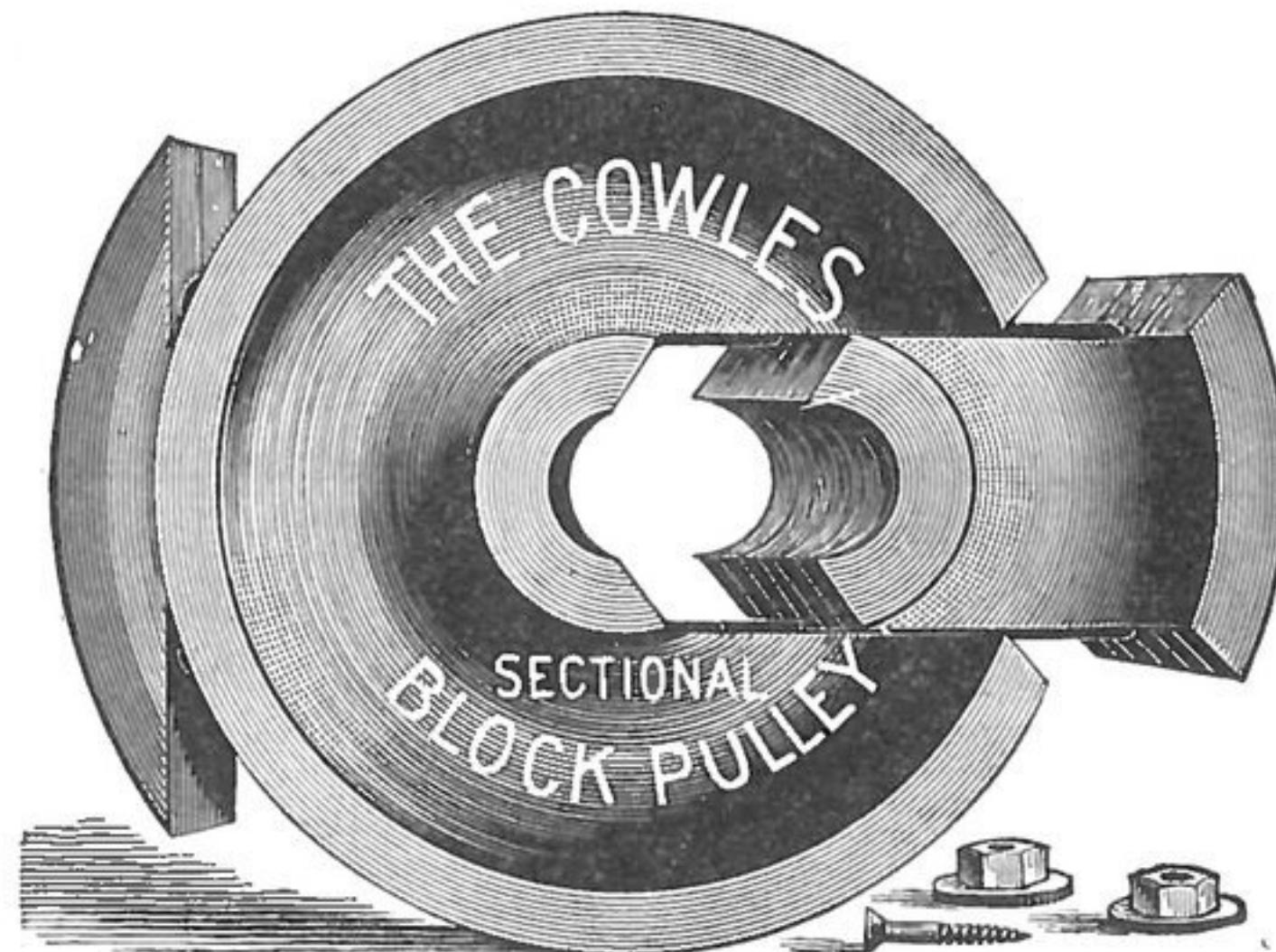


Web made of several layers glued together with grain crossing, and faced up on both sides. Iron flanges securely bolted to web. Rim put on after web has been trued up. Web and rim turned on inside and face, making perfect running pulley. Rim supported entire circumference. Positive self-gripping device for securing pulley to shafting, which is self-centering, and can not slip with wear.

A wooden rim pulley transmits from 30 to 50 per cent more power with same belt than an iron one.

Two-thirds lighter than iron, bearings will wear longer and the expense for lubricant will be less.

Having solid web, there is no air resistance. The "Reliable" can be placed on shaft or position changed in one-fourth the time required with any other pulley.



EDWARD GERMAIN,

SOLE  
MANUFACTURER,

SAGINAW, MICH., U.S.A.



PUBLISHED EVERY MONDAY. OFFICES: { Corner Pearl and Seneca Streets,  
Over Bank of Attica.  
McFAUL & NOLAN, - - - PROPRIETORS.  
THOMAS MC FAUL. JAMES NOLAN.

#### SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; remit by Postal Order, Registered Letter, or New York Exchange. Currency in unregistered letter at sender's risk.

To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

#### ADVERTISING.

Rates for ordinary advertising made known on application.

Advertisements of Mills for Sale or to Rent; Partners, Help or Situation Wanted, or of a similar character One cent per word each insertion, or where four consecutive insertions are ordered at once, the charge will be Three cents per word. No advertisement taken for less than 25 cents. Cash must accompany all orders for advertisements of this class.

Orders for new advertisements should reach this office on Friday morning to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

#### EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.

Address all communications

**THE MILLING WORLD,**  
BUFFALO, N. Y.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

#### SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order. Four consecutive insertions will be given for the price of three.

#### SITUATION WANTED.

Head miller with over 20 years experience want to make a change this spring. Address, A. MILLER, 67 Weaver Alley Buffalo, N. Y.

4t

#### SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1 cent per word, for one insertion, or 3 cents per word for four insertions. No order taken for less than 25 cents for one insertion, or 50 cents for four insertions. Cash must accompany the order. When replies are ordered sent care of this office 10 cents must be added to pay postage.

#### FOR SALE.

Water-power grist and feed mill for sale, at wharf and railroad, near New York. Established business, \$4,000. J. W. ATWATER, 150 Broadway. 1417

#### VALUABLE ENGLISH PATENTS FOR SALE.

THE COCHRANE ONE BELT DRIVE.

The patents for England issued to the late W. F. Cochrane for improvements in roller mills. Address, J. V. TEETZEL, Hamilton, Ontario, Canada. 1316

#### FOR RENT.

Clinton Mills, at Black Rock, Buffalo, for rent on reasonable terms, recently repaired and put in good order. Apply to CHAS. DANIELS, over 311 Main Street, Buffalo, N. Y. 6tf

#### FOR SALE.

One of the best paying 65-barrel roller mills in Nebraska. Nearly new, and in a locality producing a big surplus of excellent wheat. Address, A. C. PUTNAM, Chadron, Neb. 1114

#### PARTNER WANTED.

A man with capital to take an interest in a new 50-bbl. Roller, Flour and Feed mill. First class water-power. Every thing entirely new and in first class running order. A practical miller preferred. For further particulars address BILLINGS, REDHEAD & CO., Avoca, Steuben County, N. Y. 1215

#### FOR SALE.

A five run stone mill, with five water-wheels. Building 40x54, with five floors. A never-failing water power on Flint River, about 200 feet from R. R. track. Property worth \$15,000. Will sell for less than half that amount. For particulars call on or address RODGERS BROS., Genesee Village, Genesee Co., Mich. 1013.

#### MILL MACHINERY FOR SALE.

One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make.

One 20-Inch Under-Runner Portable Mill, French Buhr Stone, capacity 10 to 12 bushels per hour; new, best make.

One 14-Inch Vertical Feed Mill; best make, new, a bargain.

One No. 6 Dustless Separator; new, a bargain.

One No. 1 Full Rigged Combined Dustless Separator; new, a bargain.

Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour.

Three No. 1 Corn Shellers, capacity 200 to 300 bushels per hour; new.

One No. 2 Purifier. New. Best make. A bargain.

One 20-Inch Portable Mill.

One 18-Inch Double Gear Portable Mill.

For particulars address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y.

#### FOR SALE, EITHER ONE CHEAP.

A circular saw planing and feed mill, 90 acres of good land, two houses, one cost \$1200, best water power in county. 42 H. P. Turbine wheels. Three miles east of Ashtabula, O.

#### OR.

Short system full roller mill, capacity 2½ barrels of flour per hour, three grades. Buck wheat rig with Cranson shucker. Feed stone, &c. 40 H. P. Erie engine; locomotive boiler, all nearly new, on Main street, Ashtabula, O., two minutes walk from Post Office. Big retail trade. For particulars enquire of L. B. HOWARD, Ashtabula, Ohio. Box 488.

THE May fire-losses in the United States and Canada footed \$8,838,100, to which the milling and allied interests contributed about \$600,000. The loss in 1889 was \$9,915,300, and in 1888 it was \$9,188,500. The total for the first five months of 1890 is \$42,156,245, against \$56,513,000 in 1889 and \$57,686,450 in 1888.

CHICAGO, by shutting down its board of trade quotation department, has forced nearly a thousand of the gambling institutions called "bucket-shops" out of existence. Now, if Chicago will wipe out all her own gamblers in grain and other produce, she will place the public under lasting obligations and do all producers and consumers a great favor.

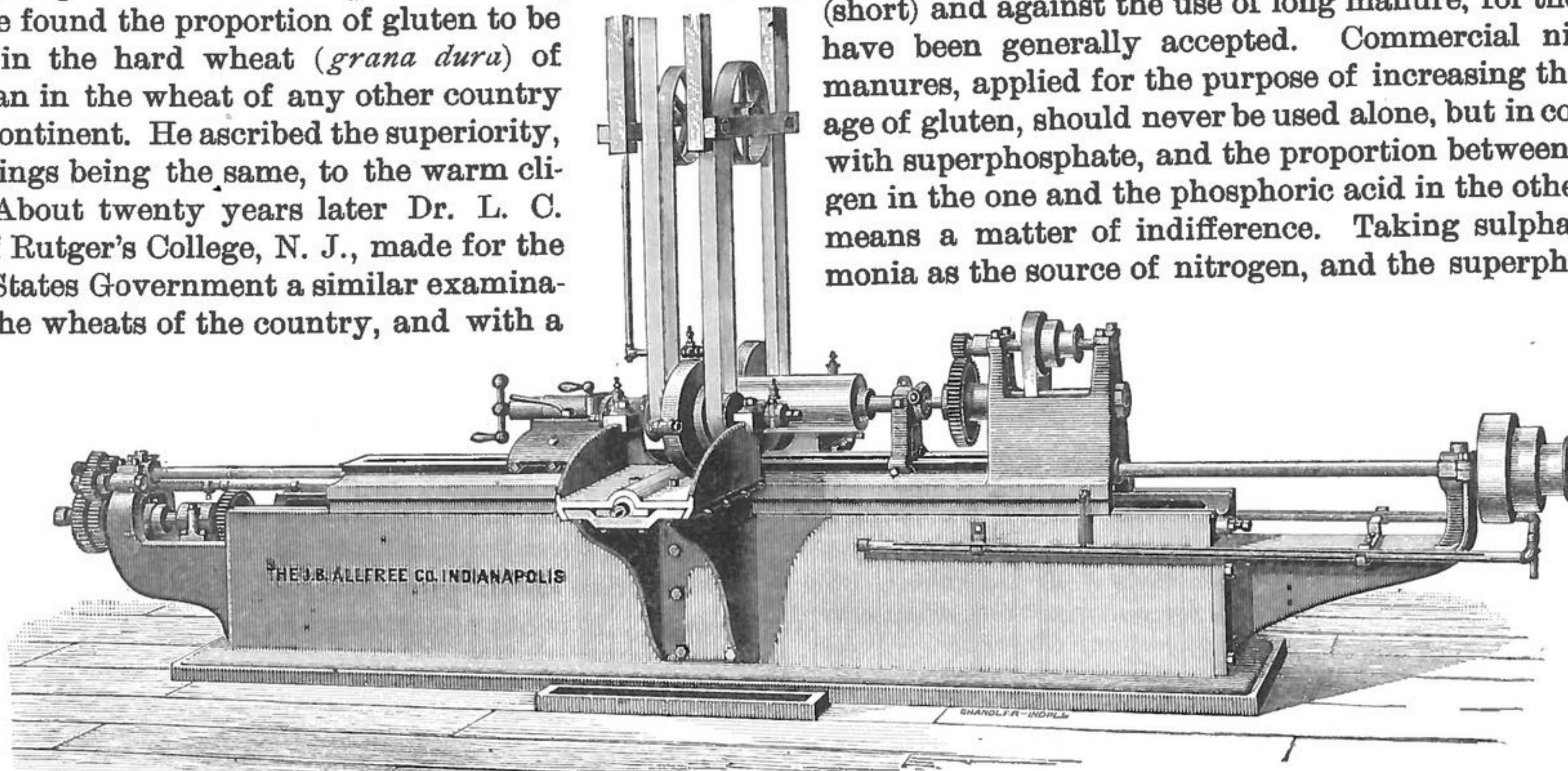
BRITISH consumers of American wheat are evidently convinced that the time will soon arrive when the United States will need all her wheat to supply her home demand. Canadian economists are holding the same opinion. Both are nearly correct. As things are now going, the population of the United States is increasing at the rate of 1,500,000 a year. That increase in population means an increase in consumption of at least 6,000,000 bushels of wheat a year. If the available surplus of wheat is now 100,000,000 bushels a year, it will require less than twenty years for consumption to catch up to demand, and during each year, even with full crops, the surplus for export will grow smaller and smaller, while an occasional short crop will make it impossible to export any large amount in some years. This is the Canadian and British view. But there are certain things to be looked at which do not appear in this generalizing view. The most important thing is the change that will take place in the methods of wheat culture in the United States as population grows denser and as demand overtakes supply. The acreage sown to wheat will be very considerably increased. It is not true that "all the available wheat land in the United States is under culture," as is asserted by foreign writers. There are still millions upon millions of acres of fine wheat land untouched. The increase in output from enlarged acreage alone will be very large, but the more important increase will come from intenser cultivation. At present most of the wheat is grown on the wasteful method of taking out all from the soil and returning nothing to it. In the future all this will be changed, and land that now grows from 15 to 20 bushels to the acre will be made to grow from 30 to 40 bushels. This is one item that the foreigners do not estimate. Misled by the preposterous published "average" of 11, or 12, or 13 bushels to the acre, they conclude that the limit of production is near at hand. They do not understand that the so-called "official average" is forever a gross misrepresentation, including as it does every year in the "total acreage" millions of acres which, from one cause or another, are not reaped. That "official average" is illustrated in this way: Four farmers plant 150 acres each. Two of them reap their whole sown tract of 300 acres, harvesting 9,000 bushels. The other two lose their wheat crop by hail, or frost, or flood, or insect pest, and do not even cut their remnant. The returns in the "official average" include their 300 acres with those of the other two, and the 600 acres are credited with a yield of 9,000 bushels, an "average" of 15 bushels to the acre, while a correct report would call for 9,000 bushels from 300 acres, an "average" of 30 bushels to the acre. It would be well for foreign writers on American grain prospects to keep the jugglery of the so-called "official average" in mind. The simple fact is that, when the necessity shall arise, the wheat production of the United States can be increased very largely by an intenser culture. Foreign economists will do well not to jump at the conclusion that the end of all things is at hand.

## THE "KEYSTONE ROLL-GRINDER."

Herewith is an engraving illustrating the new "Keystone" roll-grinding machine manufactured by the J. B. Allfree Company, of Indianapolis, Ind. The makers believe that this machine is capable of doing work that no machine built on the old principle can do. In this grinder there are many new and scientific features, enabling it to grind every roll absolutely true. This is guaranteed by the makers, who have brought out this machine at the urgent requests of the milling fraternity, who asserted that they were not able to get their rolls ground satisfactorily, as they frequently found them imperfect. The company have, they believe, overcome every objection, and they guarantee to fill all orders promptly and to grind all rolls "absolutely true." Certainly the "Keystone Roll-Grinder" is a model machine.

## GLUTEN IN WHEAT.

Early in the present century, Sir Humphrey Davy in his lectures on agricultural chemistry drew the attention of farmers to the varying proportions between the gluten and the starch in the wheats of commerce. The gluten being by far the more valuable of the two, even a slight increase in its percentage would greatly improve English wheats. Obtaining the grain from various parts of Europe and analyzing it, he found the proportion of gluten to be greater in the hard wheat (*grana dura*) of Italy than in the wheat of any other country of that continent. He ascribed the superiority, other things being the same, to the warm climate. About twenty years later Dr. L. C. Beck, of Rutgers College, N. J., made for the United States Government a similar examination of the wheats of the country, and with a



J. B. ALLFREE'S "KEYSTONE" ROLL-GRINDING MACHINE.

like result, the wheats of Virginia being richer in gluten than those of New York and other States where the climate is colder. Indeed this distinction is recognized by some of Philadelphia's best bakers of choice cakes, who prefer for their purpose Richmond (Va.) flour to all other brands. During the war, when they could not obtain it, they bought none from wheat grown farther north than the counties in Pennsylvania which border on Maryland.

Gluten and the small quantity of albumen associated with it are those constituents of the wheat grain which contain nitrogen. Boussingault, the great agricultural chemist of France, had shown that wheat obtains none of its nitrogen from the air, but all of it from the soil. He concluded that wheat as rich in gluten as the Italian could be raised in this country, if the soil contained plenty of stable manure or other fertilizer rich in nitrogen, that, in fact, the presence of an abundance of nitrogenous manure was more essential than a warm climate to the production in the grain of those nitrogenous substances, gluten and albumen; and he proved it. Taking the same variety of wheat and sowing some of it on one of the fields of his farm but fairly fertilized, and another portion on a very rich plat in his garden, he found after harvest, upon analyzing samples of the grain from both, that the latter was much the richer in gluten.

The reputation for possessing this property which American wheats bear abroad, and the avidity with which they are bought for seed, may be ascribed to the fact that much of that exported has been grown on the virgin soil of the Northwest, rich in the nitrogenous accumulations of cen-

turies. The following are the results of analyses made in Europe, and published there, on the best authority. They show why American wheat is preferred to that of the other countries named. The samples were thoroughly deprived of moisture before analysis. The little albumen present is included under the head of gluten:

## PERCENTAGE OF NITROGEN AND OF GLUTEN.

Wheat.	Nitrogen.	Gluten.
American (average).....	2.31	14.44
French (average).....	1.97	12.81
English (white Victoria).....	1.82	11.37
Scotch (red).....	1.82	11.37
Australian (average).....	1.53	9.56

As the weight of the gluten is  $6\frac{1}{4}$  times that of the nitrogen which it contains, if the latter is given, the weight of the former can be ascertained by multiplying that of the nitrogen by 6.25. The gluten is the constituent of wheat which, as food, develops muscle and imparts strength. According to the above table 100 pounds of American wheat will go further to sustain the strength of workingmen than 150 pounds of Australian. The form in which the manure containing nitrogen should be employed, in order to produce the greatest quantity of gluten in the grain, has not yet been definitely settled. As far as barnyard manure is concerned, views in favor of manure being always well rotted (short) and against the use of long manure, for the purpose, have been generally accepted. Commercial nitrogenous manures, applied for the purpose of increasing the percentage of gluten, should never be used alone, but in conjunction with superphosphate, and the proportion between the nitrogen in the one and the phosphoric acid in the other is by no means a matter of indifference. Taking sulphate of ammonia as the source of nitrogen, and the superphosphate of

lime as that of phosphoric acid, experiment has shown that the weight of nitrogen in the former should be greater than the phosphoric acid in the latter.

When one part sulphate of ammonia to three parts superphosphate of lime were used, analysis showing the proportion of nitrogen to phosphoric acid to be as 4 to 9, the percentage of gluten in the grain was 10.43. When the phosphate was doubled, making the proportion of nitrogen to phosphoric acid 8 to 9, the gluten was increased to 11.37 per cent. When the sulphate and superphosphate were in equal parts, the proportion of nitrogen to phosphoric acid being 12 to 9, the percentage of gluten became 12.75. That the manure which produces the highest percentage of gluten is necessarily that which brings the heaviest crop, can not be asserted. Manures will doubtless be found capable of insuring at the same time on a given soil the largest yield per acre and the richest grain in gluten. That the latter quality is influenced by the kind of crop which precedes the wheat, and the manure which was applied to that crop, recent researches have shown. There has yet been found no record of a higher percentage of gluten in spring wheat than 14.18; in winter wheat than 19.18, when taken from field crops. Boussingault's garden sample, above referred to, contained 21.94 per cent.; nor can it be said that the possible maximum has yet been reached.

## FOG THAT DESTROYS GRAIN.

A grain crop destroyed by fog is a phenomenon with which we are not familiar in the United States, but according to

Consul-General Sanderson it is not uncommon in Roumania, Europe, where it is supposed to have made a difference of 30 per cent. in the yield of the wheat crop last year in some districts. These fogs, he says, are particularly disastrous if they come on when the grain is soft and milky. They are impregnated with salt, and if followed, as they usually are, by hot sunshine, the grain is shriveled up, and the straw is blackened. Whole crops have been destroyed in this way in the course of 24 hours. A plan adopted to mitigate the mischief is for two men to draw a long cord so as to sweep the ears of wheat as they walk along, thus removing some of the moisture; but this, to be of any use, must be done before the sun has come out at all powerfully.

#### MILLING PATENTS.

Among the patents granted June 10, 1890, are the following:

Wm. L. Gilson, McMinnville, Ore., No. 429,616, a grain-separator, containing agitating-rollers having spiral flanges coiled oppositely from their central portions and provided at their ends with spiral flange-sections coiled oppositely to the spiral flanges, the ends of which they adjoin, and a series of pairs of shafts having spiral flanges and inclined disks, and provided at their ends with oppositely-coiled spiral flange-sections and oppositely-inclined disks.

Orville M. Morse, Jackson, Mich., No. 429,634, a grain-separator, comprising the combination, with two rotating parallel receptacles, each provided with two parallel screens and each having feed and discharge openings at opposite ends, said receptacles being separated by a discharge space or passage open in both directions, of a rotating shaft arranged between the opposing flat ends of said receptacles, and the combination, with a flat separating-receptacle provided with screens on opposite sides and an actuating-shaft to which the receptacle is attached, of elliptic driving-gears, whereby the receptacle is rotated alternately with a high and a low speed.

C. Roehl, Chicago, No. 429,645, flour, meal or bran packer, comprising the combination of a hopper having a lower tubular extension, and a plunger vertically reciprocating therein, with a moveable bar having a rack on one side and a bag-supporting plate mounted thereon, and a brake for yieldingly resisting downward pressure, said brake having a pinion for engaging the rack, and the combination of a hopper and a vertically-reciprocating plunger operating in connection therewith, of a measuring-wheel having partitions or wings dividing it into segmental pockets, a plate hinged at the outer edge of each partition or wing and extending down the side of the partition or wing and having a slotted angle-plate connected to the inner edge thereof and extending out upon the opposing face of the next wing or partition, and a set-screw operating through the slot.

Henry A. Duc, jr., Charlestown, S. C., No. 429,680, a roller-mill, comprising the combination, with a casing having a grinding-surface and an air-outlet, of a hollow revolving frame within the casing, one side of which is open and communicates with the external air, forming the air-inlet, and the ends of said frame being open and communicating with the interior of the casing, and rollers journaled in the ends of the frame.

Walter S. Wood, Kalamazoo, Mich., No. 429,749, a grain and seed separator and grader.

August Heine and Newton B. Trask, Silver Creek, N. Y., No. 429,909, a separating-machine, comprising the combination, with the stationary frame, of an inclined screen-frame provided on opposite sides with a board or plate arranged above the screen-frame, flexible arms connecting the screen-frame with the stationary rotating frame, cams adapted to strike the under side of the plates for jarring the screen, brackets secured to the stationary frame below the screen-frame, and wedges or inclined blocks adjustably secured to the stationary frame and arranged between the brackets and the under side of the screen-frame.

Daniel M. McKinnon, Edwardsville, Ill., No. 429,945, grain scourer and cleaner, comprising the combination of the cylinder loosely mounted on shaft and consisting of a perforated sheet-metal shell riveted to heads, one of said heads being a

band-pulley provided on its outer end with a disk for retaining the grain, diagonally-arranged lifting-plates adjustably secured to the inside of the cylinder, a central shaft, and scouring-disks secured to said shaft.

John M. Case, Columbus, O., assigned to the Case Manufacturing Company, same place, No. 429,998, a flour-bolt, in a gradual-reduction system, comprising the combination of the following elements, to wit: a flat bolt divided into three sections adapted for middlings, flour and bran, each comprising a graded series of compartments, a graded series of break-rolls connected with the respective compartments of the middlings-section, bran-rolls connected with the bran-outlet of the middlings-section and tailing into the bran-flour section, communication between the middlings-outlet and the flour-section, flour-rolls fed from the flour-section and tailing back into the same, suitable outlets for the flour and bran-flour, endless aprons located on the screen, and a feed-roller common to all the compartments and connected to the aprons for moving them.

Wm. H. Clark and Wm. J. Clark, Salem, O., No. 430,000, a method of uniting the edges of sheet metal, which consists in the following steps: first, overlapping the edges of the metal to be joined; secondly, punching the overlapped edges by a suitable tool to form D-shaped lips or tongues, and during this process of punching forcing said tongues together and in a downward direction through the apertures formed in cutting or punching them; thirdly, and simultaneously with the punching, expanding the metal of said tongues, and, lastly, further expanding said tongues and simultaneously therewith flattening them down upon the seam by hammering or pressure, thereby forming a complete and finished joint.

#### COTEMPORARY COMMENT.

The reason alleged by the Minneapolis representatives at Fort Wayne, at the Tri-State Convention, for not wanting an expression of opinion by those present as to whether votes in the National Association should be counted as men or barrels, is curious, to say the least. According to Mr. Loring, Mr. Homer Baldwin's motion should be tabled in order that the committee appointed to draft a new constitution for the National Association should not be embarrassed. And whence, pray, could embarrassment come from any action that the millers at Fort Wayne might take? Does the committee want to form a constitution in the dark? \* \* \* \* Mr. Baldwin was not pleading the case of small millers alone. He knew that as well as Mr. Loring. If the large mills were widely scattered, there would be less objection to voting by capacity. Mr. Baldwin is not a small miller by any means. But, as the large mills are grouped, the interests of three or four localities would be paramount, if the voting be by capacity. If the association is to be rehabilitated, the basis must be broad enough to give millers outside of the centers a show. The effort is worth making, however.—Chicago "American Miller."

The fact that much of the seeding in this province has yet to be done should not affect the harvest adversely. A Bathurst farmer says that twenty-three years ago the spring was so late that the crops were not put in till the last week of June, and that the harvest never turned out better.—Montreal "Journal of Commerce."

There is danger of a hopeless collapse of the Miller's National Association; there may never be another meeting after this month; yet there will undoubtedly be a larger gathering of millers at Minneapolis than was ever known in this country. Many will go there for the mere pleasure of the trip, many to see the mills and improve their minds, and all will as a matter of course attend the association meeting and partake of the hospitality so bountifully offered by the big millers of Minneapolis.—Kansas City "Modern Miller."

Paste this on your brain: Pure flow and clean offal economically made is the height of milling accomplishment, and the mill which falls short in either is a failure. \* \* \* \* About the best advice we can couch in the fewest words is: Feed a mill according to its capacity. And one of the most important qualifications in mill operating is to understand

the capacity of machines and the legitimate capacity of the mill in entirety.—*St. Louis "Miller."*

Speaking of tough veal, an Atchison calf, only one day old, strayed away and was found the next day six miles distant from the place of its birth.—*"Chicago Daily Business."*

There will be no winter wheat cut to amount to anything much before the first of July. Every week sees a lower average condition than the previous one. We know this is a broad statement, but we feel confident now that the results of harvest in Illinois and Indiana and everything in Kansas and Missouri go to show that the crops have been running down steadily for the last thirty days in those States.—*New York "Produce Exchange Reporter."*

#### POINTS IN MILLING.

ENGLISH syndicates of capitalists appear to find profit in flour-making in the United States, notwithstanding the alleged unprofitableness of the business. Their Minneapolis investments are proving very profitable. They will be successful so long as they employ American superintendents, American operatives, American machines, American systems and American wheat. This is what they are doing.

CROP-REPORTING is out of my line, but, having seen many grain fields this season in the course of my travels, especially winter-wheat, I feel like saying that there is likely to be a shortage in the yield. If the sections I have passed through may be taken as representing the average, the shortage will be quite as large as the worst bull reports have made it. Of course, the end of the growing period often works wonders in improving wheat, and the present season may bring a fair crop in sections that were in bad shape earlier in the year, but there are many places where there was no plant left by the frost and the bugs to improve. The crop may be a good one in quality, but it can not be large.

MILLERS who depend mainly for their grain upon neighborhood supplies are finding it difficult to get such grain as they need to enable them to compete with the flour sent out from milling centers. Farmers will insist on growing those varieties that yield most to the acre, and the only thing for the millers to do is to refuse absolutely to take grain that places them at a disadvantage in competition with other millers.

Is it fair for the miller to regard the agent as a natural enemy and an unmitigated nuisance? The agent seems to be a good institution, after all. The miller sits in his mill, and the agent comes a thousand miles to see him, saving him money and time. He sells him an outfit on the spot, and the miller goes to the nearest railroad station and receives his machines, which are generally guaranteed to give satisfaction. All the meanest work falls on the agent, and he makes the miller's path a literal path of roses by his good offices. The only time an agent is a real nuisance is when he attempts to sell an outfit to a man who has just bought one, or when he tries to make an owner dissatisfied with his purchase. As this seldom occurs, the agent may, on the whole, be considered fairly entitled to the respect and good wishes of the miller.

#### THE WHEAT CROP OUTLOOK.

The statistical returns of June to the Department of Agriculture include preliminary estimates of the area of wheat, both spring and winter, and its condition. While several states increased the area of winter wheat last autumn, the heavy reduction by plowing and planting in other crops to replace the winter wheat killed in Illinois and Indiana, and to a limited extent in two or three other states, has reduced the acreage in every wheat-growing state of any prominence except Kansas and Oregon. The percentages represent the actual area now growing in comparison with the acreage harvested last year, and include all that was seeded last fall except what has been replaced by other crops. The general average is 91.2, a reduction of 8.8 per cent. of last year's winter-wheat area. The percentages of the principal states

are as follows: New York 98; Pennsylvania 99; Virginia 97; Georgia 88; Texas 75; Kentucky 94; Ohio 95; Michigan 90; Indiana 89; Illinois 76; Missouri 96; Kansas 109; California 80; Oregon 103. An increase in acreage of spring wheat is reported, except in Wisconsin and Dakota. The percentages are: Wisconsin 97; Minnesota 118; Iowa 104; Nebraska 105; the Dakotas 95. There is also increase in Colorado, Washington and the Territories. The general percentage is 103.8. Taking winter and spring wheat together, the percentage of last year's breadth is 95.4, showing a net loss of nearly 1,750,000 acres. The estimated area of 1889 was 38,123,859 acres. Formulating the present situation in comparison with a year ago, on the basis of a corresponding relation between the condition on June 1 and the ultimate yield, the following seems to be what the government report now suggests:

	1890.	1889.
Winter wheat, acres.....	23,150,000	25,383,000
Spring wheat, acres.....	13,225,000	12,741,000
Total, acres.....	36,375,000	38,124,000
Winter wheat, bushels.....	254,000,000	332,213,000
Spring wheat, bushels .....	159,000,000	158,347,000
Total, bushels.....	413,000,000	490,560,000

The percentage of condition of wheat in the principal winter-wheat states as given by the Government Bureau of Agriculture by months thus far this year and for the four "growing" months of 1888 and 1889 are given in the following table:

States.	1890			1889			1888				
	Apr.	Ma.	Ju.	Apr.	Ma.	Ju.	Jul.	Apr.	Ma.	Ju.	Jul.
New York.....	88	91	93	94	96	96	96	94	76	80	80
Pennsylvania....	99	96	98	93	96	95	96	90	87	91	39
Texas .....	..	67	67	97	88	88	86	88	90	85	83
Ohio .....	87	82	84	88	90	88	88	68	56	56	90
Michigan.....	67	73	69	87	92	90	89	76	64	63	75
Indiana .....	75	63	63	94	90	90	89	75	59	60	62
Illinois .....	75	64	64	97	98	92	94	84	57	62	68
Missouri.....	83	82	77	95	98	98	94	82	80	72	72
Kansas.....	87	91	80	96	98	98	98	97	94	95	93
California.....	71	83	86	98	..	..	..	..	..	..	..

The spring-wheat conditions by months for two years is given below:

States.	June			July			August		
	1888	1889	1890	1888	1889	1888	1889	1888	1889
Wisconsin.....	91	96	82	91	95	88	90	90	90
Minnesota.....	90	93	97	94	87	85	85	93	93
Dakota .....	92	88	90	98	62	91	57	57	57
Iowa.....	97	99	93	97	97	84	84	94	94
Nebraska.....	96	99	85	95	95	84	84	91	91

The following table of general averages of winter wheat for a series of years will, taken in connection with the above tabulation, prove of great value to readers, who will be enabled thereby to note the averages of the crop and make comparisons in detail and as a whole with the previous years:

Years.	April.			May.			June.			Crop, bu.
	1890	1889	1888	1888	1889	1888	1889	1888	1889	
1890 .....	81.0	80	73.1	..	..	..	..	..	..	..
1889 .....	94	96	93	332,000,000	332,000,000	277,000,000	293,000,000	302,000,000	211,000,000	356,000,000
1888 .....	82	73	73.3	..	..	..	..	..	..	..
1887 .....	88	86	84.9	..	..	..	..	..	..	..
1886 .....	92.5	95	92	..	..	..	..	..	..	..
1885 .....	76	70	62	..	..	..	..	..	..	..
1884 .....	94	94	93	..	..	..	..	..	..	..
1883 .....	80	82.5	75	..	..	..	..	..	..	..
1882 .....	104	100	99	..	..	..	..	..	..	..
1881 .....	85	85	..	283,000,000	283,000,000	..	..	..	..	..

The reported area of oats is 98.7; condition 89.8. Area of barley 98.1; condition 86.4. Area of rye 98.5; condition 92.3. Area of clover 100.7; condition 95.1.

A writer in the Kansas City "Star" submits a statement to demonstrate that the wheat crop in the Atlantic division of the country "promises a surplus available for exportation of just 2,000,000 bushels" for the coming year, beginning July 1. He says that "no well-posted person expects a total winter-wheat yield of more than 247,000,000 bushels," of which 55,000,000 is credited to the Pacific Coast, leaving 192,000,000 for the Atlantic States. He further says: The population of these States is 48,000,000 and the wheat acreage 25,000,000. The requirements for consumption and seeding one year are therefore 261,000,000 bushels, or 69,000,000 bushels more than the production. If the yield of spring wheat is as large as last year, it will be 158,000,000 bushels.

The requirements for consumption and seed in the spring-wheat States are 87,000,000 bushels, leaving a surplus of 71,000,000 bushels. All but 2,000,000 bushels of this will be required to fill up the shortage in the winter-wheat States."

#### RELATIVE VALUES OF FOODS.

Speaking roughly, a quart of oysters contains on the average about the same quantity of active nutritive substance as a quart of milk, or a pound of very lean beef, or 1½ pounds of fresh codfish, or two-thirds of a pound of bread. But while the weight of actual nutriment in the different quantities of food material named is very nearly the same, the quality is widely different. That of the very lean meat or codfish consists mostly of what are called in chemical language protein compounds or "flesh formers," the substance which make blood, muscle, tendon, bone, brain and other nitrogenous tissues. That of the bread contains but little of these, and consists chiefly of starch, with a little fat and other compounds, which serve the body as fuel and supply it with heat and muscular power. The nutritive substance of oysters contains considerable of both the flesh-forming and the more especially heat and force giving ingredients. Oysters come nearer to milk than almost any other common food; their values for supplying the body with material to build up its parts, repair its wastes and furnish it with heat and energy would be pretty nearly the same.

#### VIENNA BAKERS IN TROUBLE.

Bakers in Vienna, especially the master-bakers, appear to be in a really uncomfortable plight. Their trade has not escaped the epidemic which is and for some time has been raging in Austrian industrial life. After several months of bickering with their men the Vienna bakers made, on the initiative of the Bakers' Company, a series of concessions, including the important innovation of three shifts of eight hours apiece to the working day. But these new conditions have apparently been found intolerable by the masters, many of whom are men of comparatively little capital, who can not afford to employ a staff of men large enough to work a triple system of shifts, and under the storm of protest which this particular concession raised up the president of the Bakers' Company has resigned his post. In the meantime the baking trade felt it necessary to make some move in the way of improving its position, and resolved to meet their increased cost of labor by raising the price of bread, diminishing their commissions to chandlers' shops and refusing the return of any loaves placed in the hands of such middlemen. The bare mention of an intention to raise the price of bread was sufficient to excite a strong clamor in the city of Vienna against the baker, and the Central Government, exercising its authority to assize the bakers' prices, stepped in and announced that, as flour showed no disposition to rise, no increase would be permitted in the price of bread. Meanwhile a candid friend has been found in Pappenheim's "Mueller Zeitung," which warns the bakers that there must be no thought of raising the price of bread, a measure that will not be endured by the Viennese, who are accustomed

to eat cheap and good bread and will eat no other. That journal adds that any attempt to increase the cost of this staple of life will be certain to raise up large bakeries, which, producing and selling large quantities of bread, will be in a position to sell their loaves at the merest fraction of profit. It is admitted that the experiments hitherto made in the direction of big bakeries in Vienna have not succeeded, but that was merely because the bakeries had fallen into the wrong hands. This, it is urged, may not always be the case, and therefore the bakers are entreated not to raise their prices and thus give an excuse for the invasion of Viennese soil by the large bread factory.

IT never rains, but it pours. A crop bulletin from Manitoba says: "It is now the general opinion among farmers in this country that the Manitoba wheat crop for 1890 is assured. Reports received from seventeen grain centers in Manitoba and western territories show very encouraging news of the condition of crops. Many farmers assert that, even if we should have no more rain this season, wheat can not suffer from drouth, as the plants have taken good roots and are in a healthy and vigorous condition." All of which is premature. The crop will be "assured" when it is harvested, not when the plant is just peeping above the soil.

THE millers of northeastern Missouri held a convention at the Florence Hotel, Moberly, Mo., on Tuesday, June 10. Representatives of 12 counties were in attendance. They reported that the yield of wheat in their section, which includes the central and northern counties of Missouri, would average 55 per cent. of a crop.

The Northern Central Railway Co., Baltimore, Md., is building a grain-elevator at Canton and another at Calvert Station.

#### SPECIAL NOTICES.

##### BOLTING CLOTH.

Do not order your cloth until you have conferred with us. It will pay you, both in point of quality and price. We are prepared with special facilities for this work. Write us before you order.

CASE MANUFACTURING CO.,

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N. B.—All Mill Picks ground and ready for use (bot old and new) before leaving the shop. No time and money lost grinding rough and newly dressed Picks. All come to hand ready for use.

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#### "Cooper on Belting"

A Treatise on the Use of Belting for the Transmission of Power. With illustrations of approved and actual methods of arranging Main Driving and Quarter Twist Belts, and of Belt Fastenings. Examples and Rules in great number for exhibiting and calculating the size and driving power of belts. Plain, Particular and Practical Directions for the Treatment, Care and Management of Belts. Descriptions of many varieties of Beltings, together with chapters on the Transmission of Power by Ropes; by Iron and Wood Frictional Gearing; on the Strength of Belting Leather; and on the Experimental Investigations of Morin, Briggs, and others, for determining the Friction of Belts under different tensions, which are presented clearly and fully, with the text and tables unabridged. By JOHN H. COOPER, M. E. Second Edition. One vol., dem. octavo. Cloth, \$8.50. Sent post-paid on receipt of price. Address,

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—MAKERS OF THE CELEBRATED—



Union Safety and  
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BICYCLES.

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**COOKING BY ELECTRICITY.**—A most novel experience was that of boiling eggs and cooking beefsteak by electricity, successfully performed recently in Cincinnati. It required six amperes and 96 volts to produce sufficient heat. The apparatus used in these experiments was a resistance formed by platinum wires insulated from each other, and so arranged that the heat was concentrated at one point and kept from radiating by an iron box or oven, lined with mica and asbestos.

## GENERAL NOTES.

THE flow of the Niagara river at the falls equals 12,785,455 cubic feet total flow per minute, or about 213,000 cubic feet per second. Measurements by the Lake Survey Board indicate the average flow of the river to be 265,000 cubic feet per second.

### BIGGEST OVER-WISE MEN.

Ignorance never dies. Stupidity never understands its own ridiculousness. Men who fall behind the procession never know just how far in the rear they are. These statements are illustrated over and over every day by the men who pose as scientific defenders of the human race against disease, and who try to control the race in the matter of diet. Never was there a plainer illustration of these statements than is contained in the following advertisement in a New Castle, Pa., paper of recent date:

"We, the undersigned physicians of the City of New Castle, strongly recommend the use of 'Old Process' flour, that is, flour ground with stones, believing it to be the most wholesome flour made. The opinion has frequently been given by leading scientific men that 'Old Process' flour is much the best for many reasons, among them that flour made in this way retains the gluten contained in the grain, as is also true of the germ containing the phosphates necessary to make brain, bone and muscle, while these essentials to wholesomeness are destroyed by the modern process of grinding.

W. A. DONNAN, M. D. J. K. POLLOCK, M. D.  
C. H. and W. H. LEE, M. D. T. J. BLACKWOOD, M. D.  
CHAS. A. REED, M. D. J. W. COVERT, M. D.  
J. D. WOOD, M. D."

Upon what do these self-called "physicians" base their "opinion" that "old-process" flour is wholesome? Scientific men like Mege-Mouries and others have demonstrated that bran left in flour not only is not digested by man, but it seriously interferes with digestion, inducing an unhealthy intestinal condition, and leaving the system unchanged. It goes in bran, and it comes out bran, and in its passage it disturbs by irritation. The same men have shown that the germ left in flour promptly spoils, becomes fusty, taints the flour and makes it unpleasant and unwholesome. The only way to reap the benefit of the germ in flour would be to consume the flour as soon as ground, before the oily germ has time to grow rancid. Will the eight wise men of New Castle explain how or why roller grinding can possibly "destroy" the gluten in the wheat? These eight wiseacres are ages behind the age, even in things that pertain directly to their own profession in its most important bearings and relations. Another illustration of our prefatory statements is furnished by a periodical named the "Science Amateur," which in a recent number made the following display of amateurish ignorance on the same subject, flour and bread:

"Bread has been called the staff of life, and yet this figure of speech, in view of the kind of bread that most persons eat, is a decided misnomer. The ordinary white flour, which forms the basis of so much food that is eaten, is principally a starch compound and contains only three of the fifteen elements that go to compose the body, namely, carbon, hydrogen and oxygen. To prove that white flour does not meet the requirements of the body, Magendie fed it wholly to a number of dogs, and at the end of forty days they died.

Others to whom he gave the wheat meal at the end of this time were in first-class condition. More than half of the children under 12 years of age have decayed teeth, owing to the insufficient supply of the required mineral ingredients, and this deficiency is caused as a rule by eating white bread. Dyspepsia, constipation, loss of nerve power and many other diseases are produced by improper feeding. Sulphur is required for the growth of the hair, yet white flour does not contain a trace; the phosphates are also notably lacking, and as these substances are absolutely necessary in the animal economy, then, arguing *a priori*, the use of bread as ordinarily prepared should be interdicted. When flour is made of the whole grain of wheat, we have an article of food which contains all the elements that the body requires for its support; and this flour should be universally used, in spite of the false aesthetic taste that demands a 'white loaf.'"

Possibly this "amateur" science is even more grotesque than that of the eight New Castle physicians. The Magendie experiments prove nothing. It is not strange that carnivorous animals fed on white flour died. It proves nothing that other carnivorous animals did not die in forty days when fed on whole meal. In neither case did the experiments with the dogs have the slightest possible bearing upon the fitness of either white flour or bran for the human, whose diet is so mixed that what is wanting in one article eaten is invariably found in some other article eaten. Had Magendie killed men in forty days with a diet of white flour, or had he fattened other men in the same time on whole meal, the diet in both cases being exclusively white flour or whole meal, the experiments might count for something. As they stand, they are food for quacks and ignoramuses, who can talk more freely the less they know. Genuine science has proved that bran produces dyspepsia and other intestinal disorders in the human, from the undeniable fact that the human anatomy can not digest bran. Nonsensical trash like that uttered by the New Castle physicians and "Science Amateur" is out of place in these days. These scribblers ignore the mixed diet of men, and they proceed to argue on the implied basis that wheat flour is the only food used by men. If either of the New Castle physicians or the amateur scientific scribbler will subject himself to the Magendie 40-day diet of bran, THE MILLING WORLD will bear his funeral expenses and erect a bran-cake mausoleum over his bran-slaughtered remains. We know it will kill the experimenter. On the other hand, we do not fear to assert that a man fed wholly on white flour for forty days will stand a better chance of coming through the ordeal alive than one fed wholly on bran and flour mixed. If bran and germ and other outside matters will really promote a growth of brain, teeth and hair, we recommend their use in Gargantuan doses to the store-toothed, bald-headed and imbecile bran-fodder fanatics, who seem to be unable to see through a millstone even as far as the hole goes.

### OBITUARY.

M. Charles G. Rollins, an old citizen of Minneapolis, Minn., died in that city June 4, of influenza. He was born in Maine in 1846, 44 years ago, and was with the Herzog Fence Company when that firm was in existence. He established the firm of Day & Rollins, but is perhaps best known as the inventor of Rollins' middlings-purifier, which is in general use in the flouring-mills of the world. On account of ill health he a few years ago retired from business.

### CATARRH.

#### CATARRHAL DEAFNESS—HAY FEVER.

##### A NEW HOME TREATMENT.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

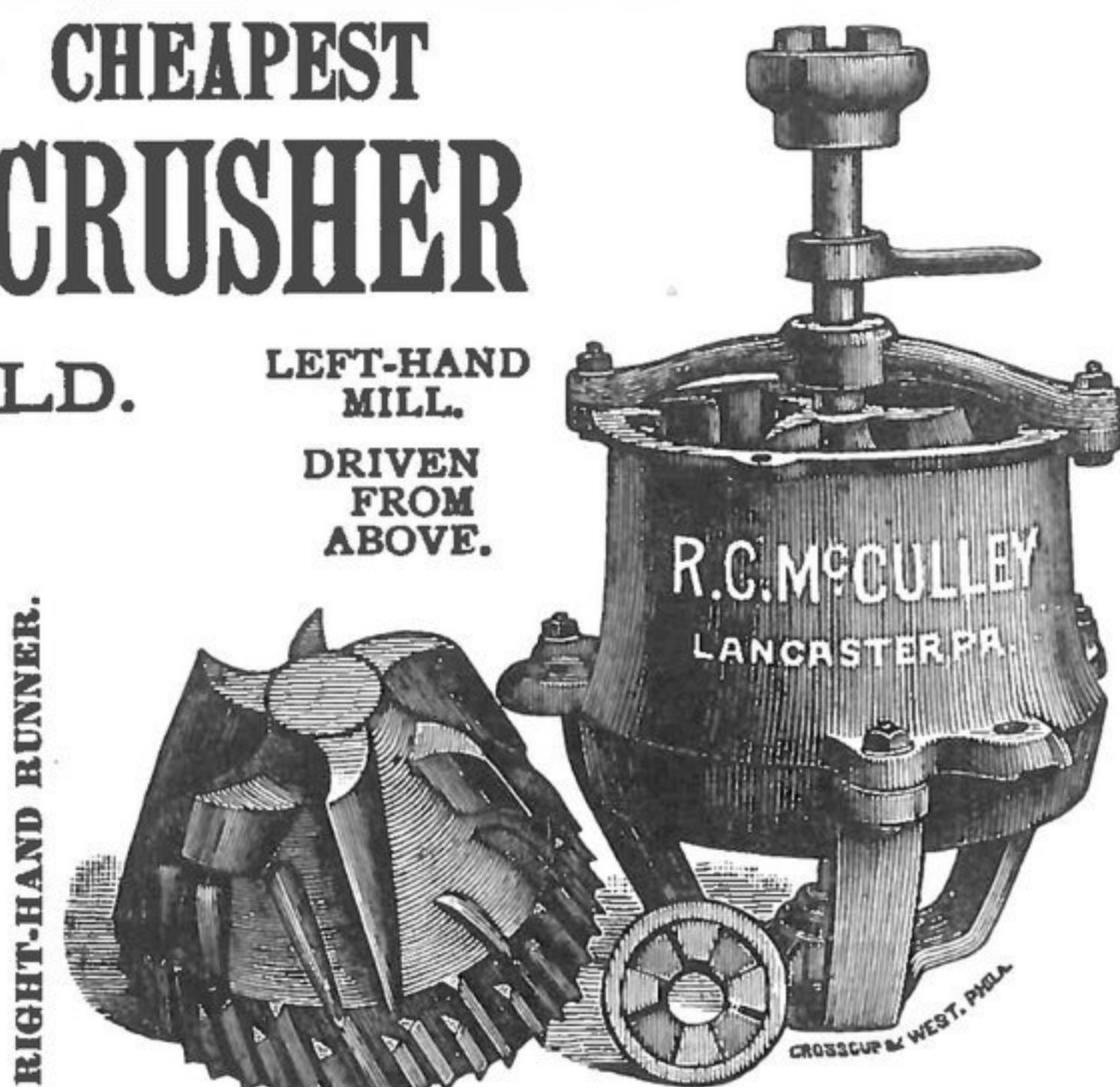
N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on receipt of stamp to pay postage, by A. H. Dixon & Son, 337 and 339 West King street, Toronto, Canada.—*Christian Advocate*.

Sufferers from Catarrhal troubles should carefully read the above.

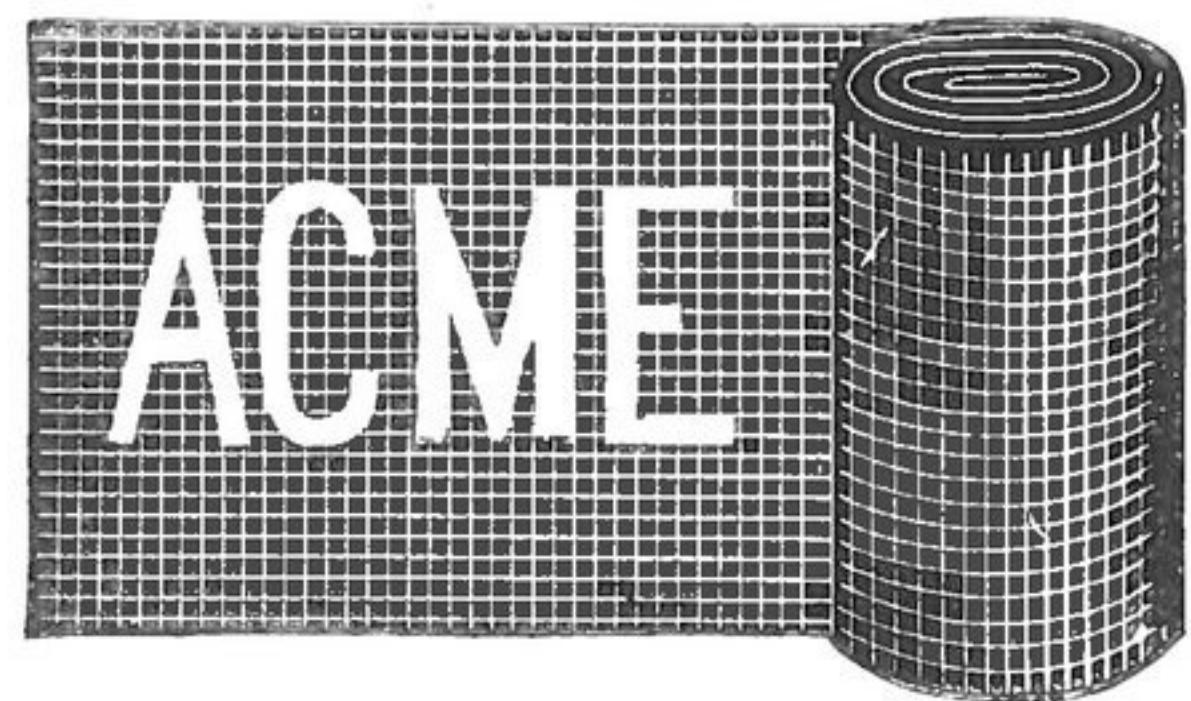
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All wearing parts cast of a steel mixture. Notice difference in construction. Most area where most work is done, where all other crushers have least area where most work is done. Low priced machinery is not the cheapest, considering durability and efficiency. Sent on 30 days' trial when satisfactory reference is furnished.

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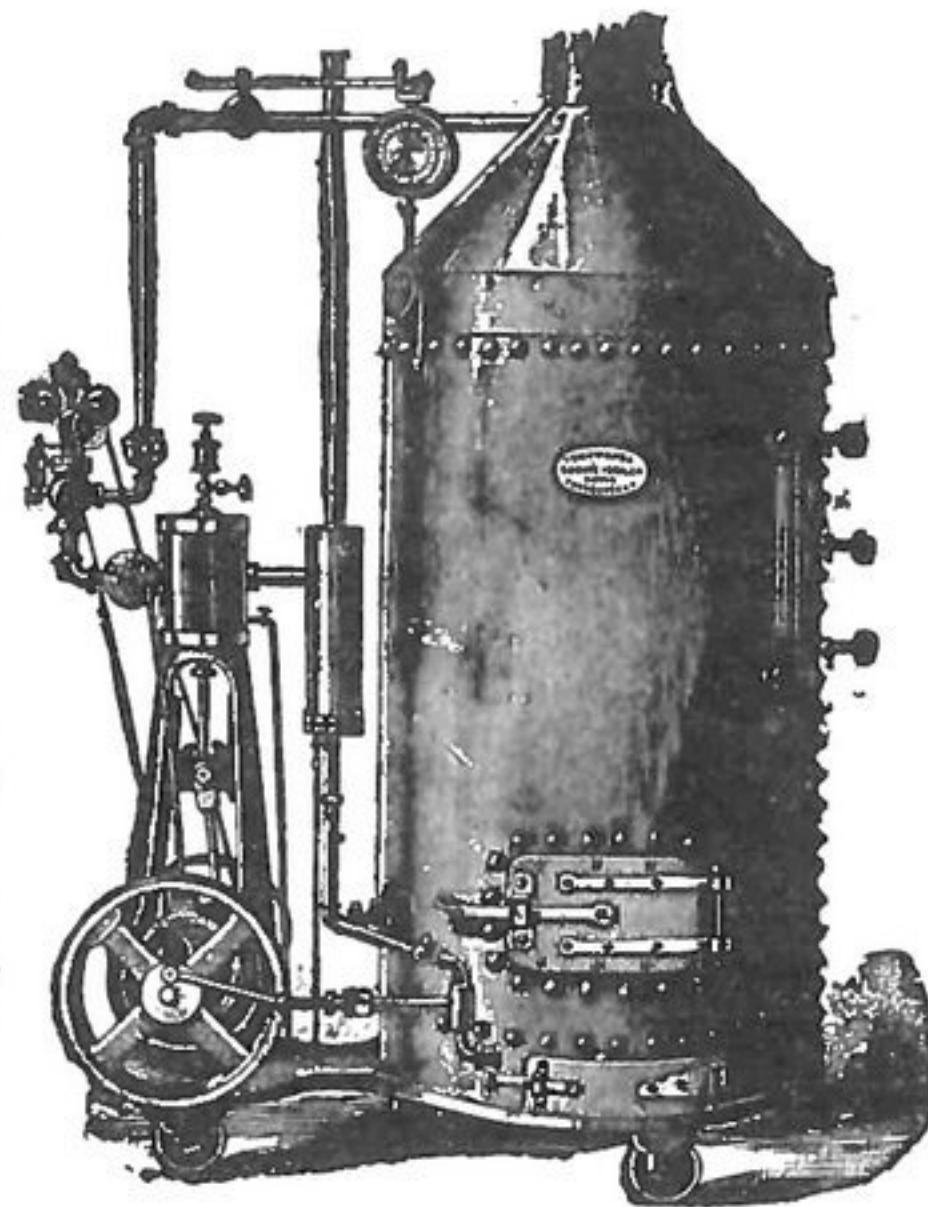


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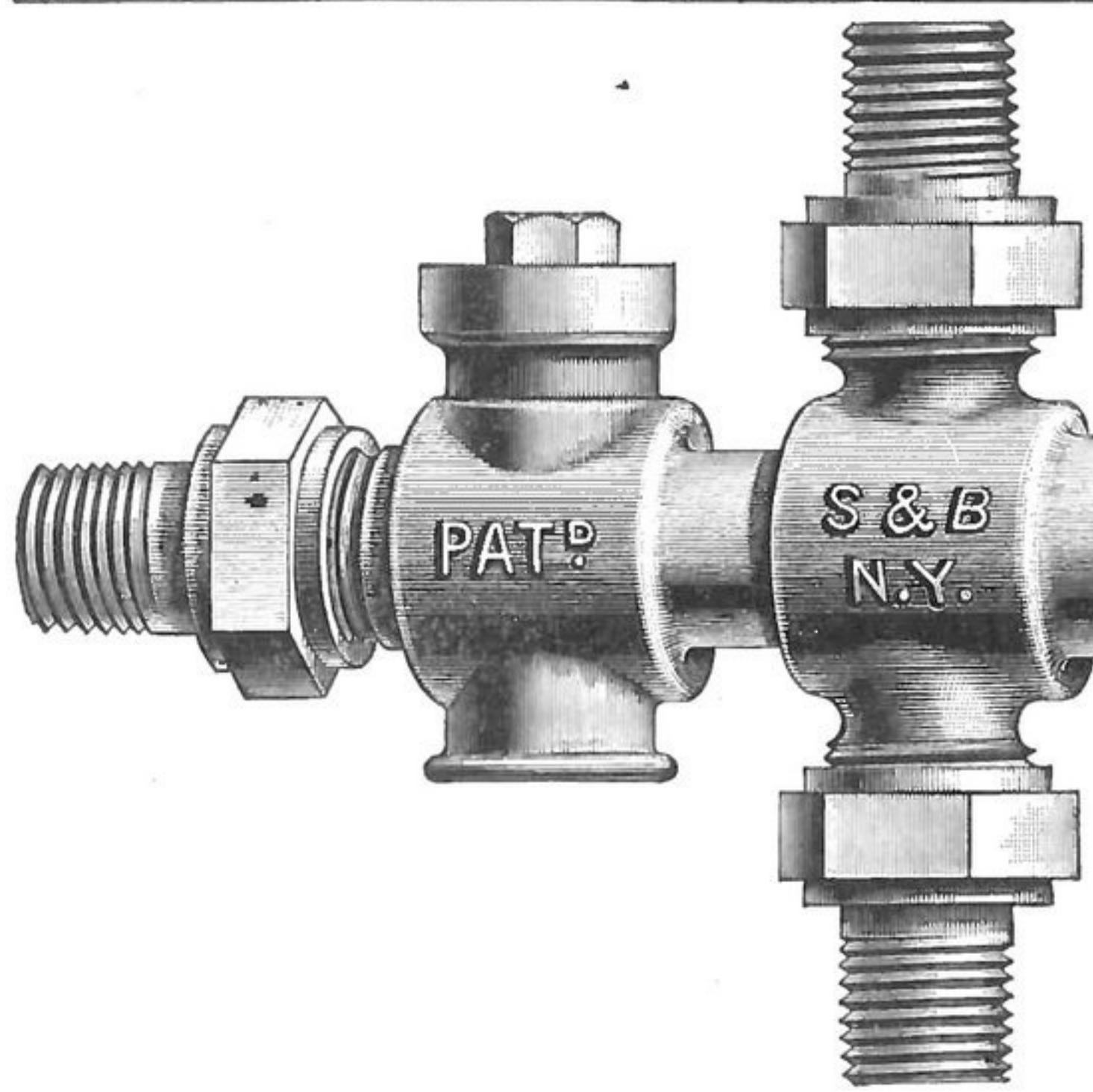


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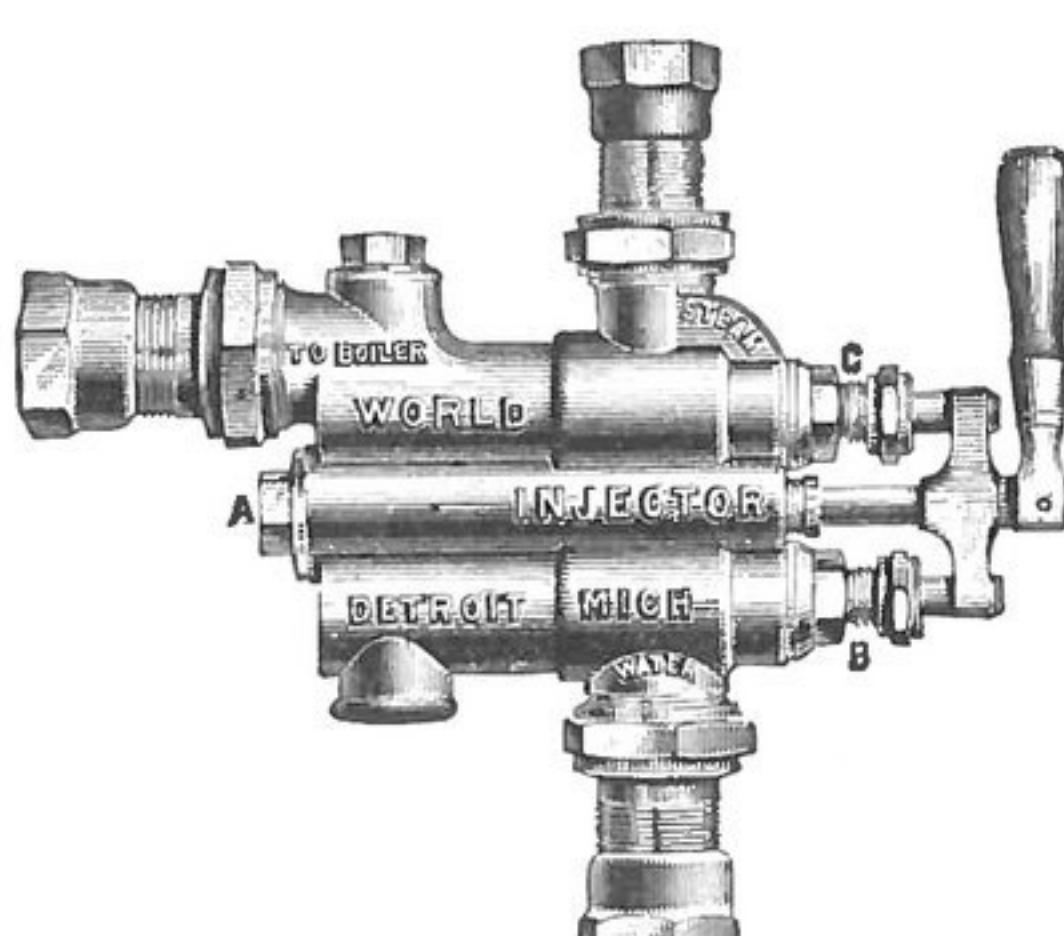
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New York.

**THE** Best is the Cheapest. Whenever you want a Boiler Feeder that will prove reliable under all circumstances, buy the **WORLD** Injector. It is absolutely the simplest and safest to operate and handle of any injector now on the market, **FOR** it is operated by a single lever only. In whatever territory you find these reliable World Injectors on **SALE** they are always guaranteed by the seller.

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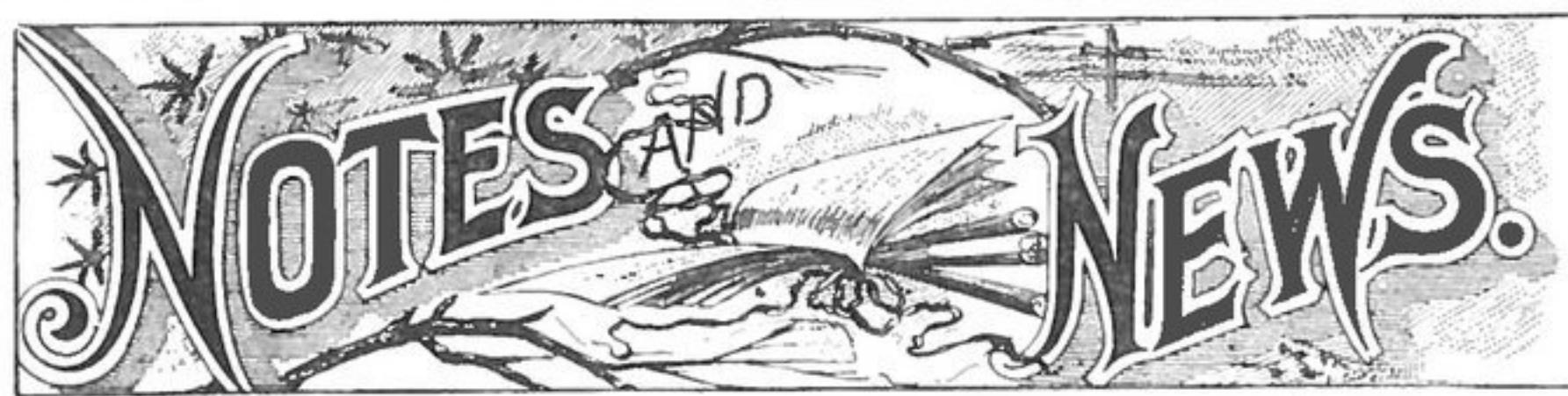
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# KEEP YOUR BELTS FROM SLIPPING

And Save Your Power by Using FRICTION COVERING for Pulleys. Agents Wanted. Satisfaction Guaranteed. Easily Applied. No Rivets. Effective.

**NATIONAL PULLEY COVERING CO., BALTIMORE, MD.**



J. B. Hensley, Baird, Tex., builds a grist-mill.  
 The Chreaw, S. C., Iron Works built a grist-mill.  
 A. Malsch, Edna, Tex., bought the Schorr grist-mill.  
 H. T. Isenberg, Mooresburg, Tenn., builds a corn-mill.  
 R. H. Garris's grist-mill, near Greenville, N. C., burned.  
 J. S. DeMontmollin, Middleburg, Fla., builds a grist-mill.  
 R. P. Cooper and others, Sumpter, S. C., build a grist mill.  
 The Farmville, Va., mills will remodel; machinery is wanted.  
 J. B. Bougie, miller, St. Louis de Gonzague, Que., Canada, is dead.  
 N. D. Comstock, of Comstock & Gaveney, millers, Independence, Wis., is dead.  
 Wyatt Bros.' grist-mill, near Newton, Miss., burned; loss \$2,000; no insurance.  
 G. W. Freeman's flour-mill, Mansfield, Mo., burned; loss \$20,000, with no insurance.  
 W. H. Eliason, Decherd, Tenn., has bought and will improve the Decherd flouring-mill.  
 Wilford Bros. & Co., Bowling Green, Ky., increase their flour-mill capacity to 200 barrels daily.  
 T. B. Mitchell & Co., Dumfries, Va., will add a flour mill to their corn-mill plant; they want machinery.  
 The proprietors of the Crown Roller Mill, Minneapolis, Minn., are remodeling at an expense of \$35,000.  
 The Case Mfg. Co., Columbus, O., have an order from Witherspoon & Barr, Princeton, Ind., for a Case automatic feed for their rolls.  
 J. I. Thompson's grain-elevator, Lemont, Pa., burned with other property; loss \$5,000; insurance \$1,820; fire mysterious.  
 J. McMullen's grain-elevator, Mt. Forest, Ontario, Canada, burned; loss \$13,500; insurance \$6,000; lightning caused the fire.  
 The Case Mfg. Co., Columbus, O., have an order from Gooch & McCue, Princeton, W. Va., for 2 pairs of rolls and a special purifier.  
 The Case Mfg. Co., Columbus, O., have orders from Aug Wolf & Co., Chambersburg, Pa., for 18 pairs of rolls, 2 flour-packers and 1 bran-duster.  
 Jacob Walter, Easton, Pa., engaged in flour-milling since 1848, is embarrassed. Judgment notes footing \$30,850 have been entered against him.  
 The Carlisle Milling Co., Carlisle, Ky., have placed an order with the Case Mfg. Co., Columbus, O., for 5 automatic feeds, to be placed on their rolls.  
 The Cambridge Milling Co., Cambridge, Neb., have placed an order for 4 Case automatic feeds for their rolls with the Case Mfg. Co., Columbus, Ohio.  
 The Case Mfg. Co., Columbus, O., have an order from Archer Bros., Berne, O., for rolls, purifiers, centrifugal and other machinery for a full roller mill on the Case system.  
 The Case Mfg. Co., Columbus, O., have an order from B. F. Starr & Co., Baltimore, Md., for 10 pairs of rolls, 6 flour-dressers, 1 centrifugal reel, 1 purifier and 5 scalping reels.  
 The Boston Flour Mills, Lake City, Minn., burned June 8; loss \$140,000; insurance \$75,000. The mill was owned by O. M. Crumpter. The fire was thought to be of incendiary origin.  
 Says the Salina, Neb., *Republican*: There must be some mistake about the little city of Scotsville having the largest corn-crib in the State. Saline county has one thirty miles square.  
 Rease & Sullivan, Genoa, N. Y., have placed their contract for the necessary rolls, scalpers, flour dressers, purifiers and all other machinery for a full roller mill with the Case Mfg. Co., Columbus, Ohio.  
 The first wheat of the 1890 crop received at San Francisco arrived May 20, and was sold at \$1.30. It was shipped from Poso, Kern county, Cal., on May 17. This is the earliest wheat ever received at San Francisco.

Calland & Bircher, Summerfield, O., are remodeling their mill to the roller system and have placed their order with the Case Mfg. Co., Columbus, O., for the necessary rolls, round reels, purifiers and other machinery.

The Pillsbury-Washburn syndicate, Minneapolis, Minn., pay \$165,000 a year rent for the recently acquired Washburn mills, and they propose to expend \$100,000 in improving the plant up to the highest modern notch.

The Kentucky Central Railroad Co.'s new grain-elevator in Memphis, Tenn., burned; loss \$75,000; insurance \$25,000. E. C. Adams, of Atchison, Kan., the contractor who had just completed the building, was burned to death. The origin of the fire is a mystery.

Three incendiary fires have occurred at Schuyler, Neb., within the past month, and a letter was picked up on the street containing a threat that Wells & Nieman's big mill and elevator would be the next to go. The property is being guarded by a party armed with shot-guns.

The Consolidated Roller Mill Company have instituted a suit against Frank Arnold, of Sauk Rapids, Minn., for infringement of the process of reducing grain to flour covered by the fifth claim of John Stevens' patent, No 228,001, which is as follows: "The process of reducing grain to flour, consisting in passing it through a series of sets of rolls graded in respect to fineness of dress, and through bolts intermediate between each set and the succeeding set of rolls."

The National Pulley Covering Co., of Baltimore, Md., have recently received the following communication regarding their well-known patent friction covering for pulleys from Furbee & Johnson, manufacturers of flannels, blankets and jeans, Mannington, W. Va., which needs no comment: "Dear Sirs: The pulley covering we got from you in 1888 has given entire satisfaction. We were a little doubtful about it sticking to the pulley at first, but during the summer our mill was flooded and the driving-pulley with your covering on was under water for 2 or 3 hours, and it did not seem to affect it in the least. It is the best pulley covering we know of."

The largest grain elevator in the world was built at Minneapolis Junction in 1886. The building is 336 feet long, 92 feet wide and 175 feet high. It has storing capacity for 2,000,000 bushels of grain within its walls. During its construction the carpenters and joiners used over 6,500,000 feet of lumber of all kinds, besides 32 carloads of nails, which, if packed, would make the enormous amount of 10,000 common kegs; the best calculators say that the actual number of nails used in the mighty building will fall but few, if any, under 20,000,000. The engine used is capable of handling 175,000 to 250,000 bushels of grain per day, or enough during the year to equal the combined production of the state of Minnesota and the two Dakotas. About 250 cars have often been loaded at this elevator in ten hours.

The cost of farm labor in Great Britain, estimated by the statistician of the Agricultural Department, is \$150 per annum; in France \$125; in Holland and Austria \$100; in Germany \$90; in Russia \$60; in Italy \$50, and in India \$30, while the same labor costs in the United States \$220. The farmers of the United States have therefore come to appreciate that with the wonderful wheat development in India and Russia, with the vast sums of money which have been expended for irrigation and in railroads for transporting this wheat, taken in connection with their cheap labor, the time is already here when the American farmer must sell his product in the markets of the world in competition with the wheat produced by the lowest priced labor of other countries, and that his care and concern must in the future be to preserve his home market, for he must of necessity be driven from the foreign one, unless by diminishing the cost of his production he can successfully compete with the unequal conditions I have described.—*Congressman Wm. McKinley, jr.*

#### BOOKS AND PAMPHLETS.

*Good Housekeeping* is a model publication in its field and might well receive a cordial welcome to every home. One of the most valuable articles in the issue for June 7 is "The Girl that Will Be Wanted," by "A Country Parson"; there is a very valuable paper on the human hair, stories, suggestions, poetry, household recipes and plenty of just the right sort of reading for entertainment and instruction. Clark W. Bryan & Co., Springfield, Mass., are the publishers.



**W.A.BINGHAM,**  
 MANUFACTURER OF  
**FLOUR SACKS.**  
 178 Duane Street,  
 New York, MILLERS' FLOUR SACKS A SPECIALTY.



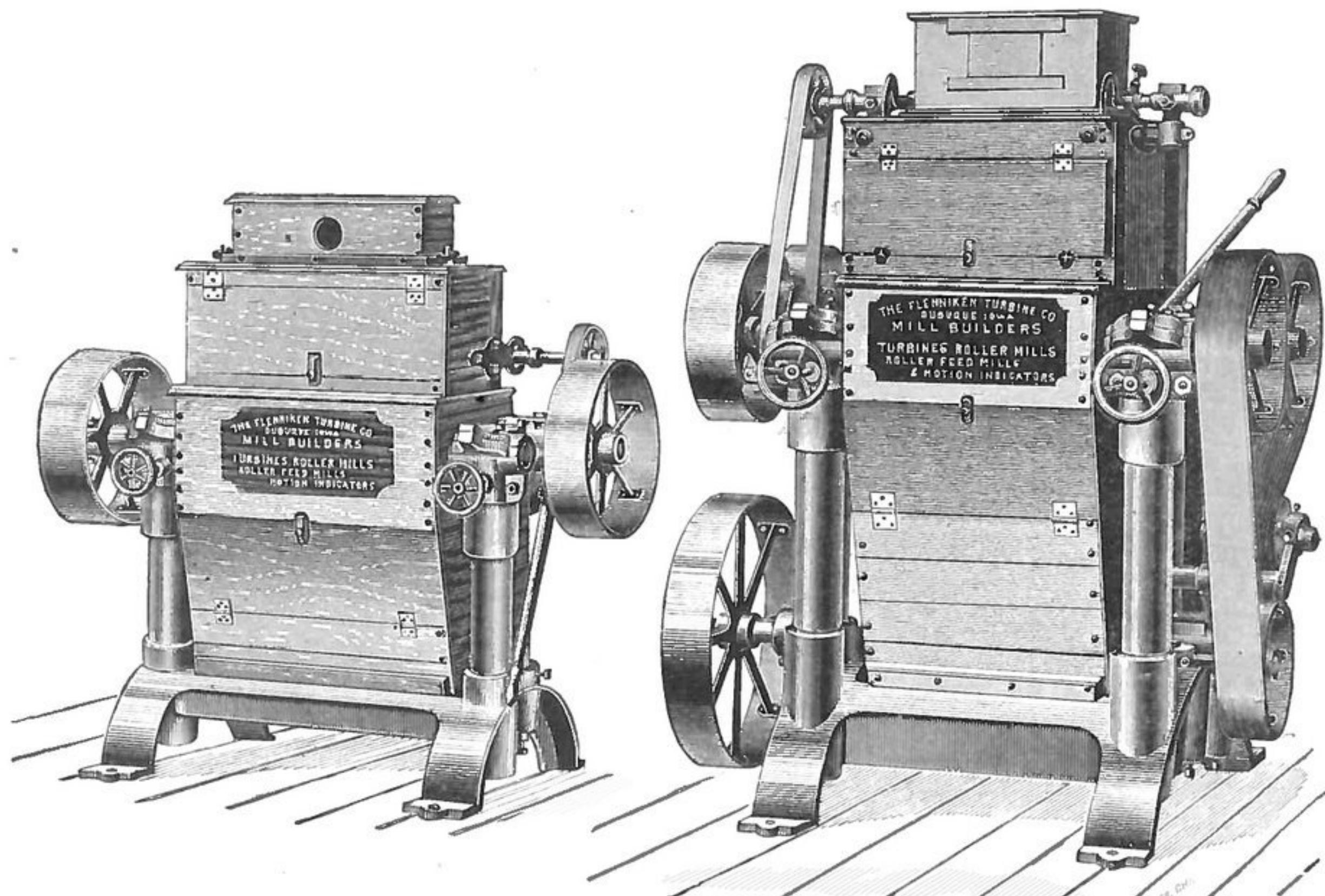
THE PATRONAGE of the MILLING TRADE is MOST RESPECTFULLY SOLICITED.

# ONE REDUCTION TO THE FRONT!

*Ye jolly millers, one and all,  
Who granulate with burrs,*

A Moses has Come to Deliver You from Egypt. Cease Trying to Make Bricks without Straw. The Red Sea of Expense Has Been Divided.

**The Wilderness of Reductions has Been Shortened. There is Manna in Abundance for Those Who Believe. Listen to the Glad Tidings of Great Joy!**



**ONE REDUCTION ON ROLLS IS A SUCCESS!** Two years of experience in a dozen States, with all kinds of Wheat and diversified climates, has justified us in recommending its adoption in place of burrs in each and every case, whether for grinding Wheat, Rye or Buckwheat. We have perfected Roller Mills, Bolts and Scalpers peculiarly adapted to the wants of Small Mills, and all our machines *infringe no patents*, and no claims are made that they do.

Having consummated a bargain with **MR. O. C. RITTER**, the author and patentee of **One Reduction**, which gives us the *exclusive right* to construct mills under his patents, our patrons in the future will receive a license from Mr. Ritter.

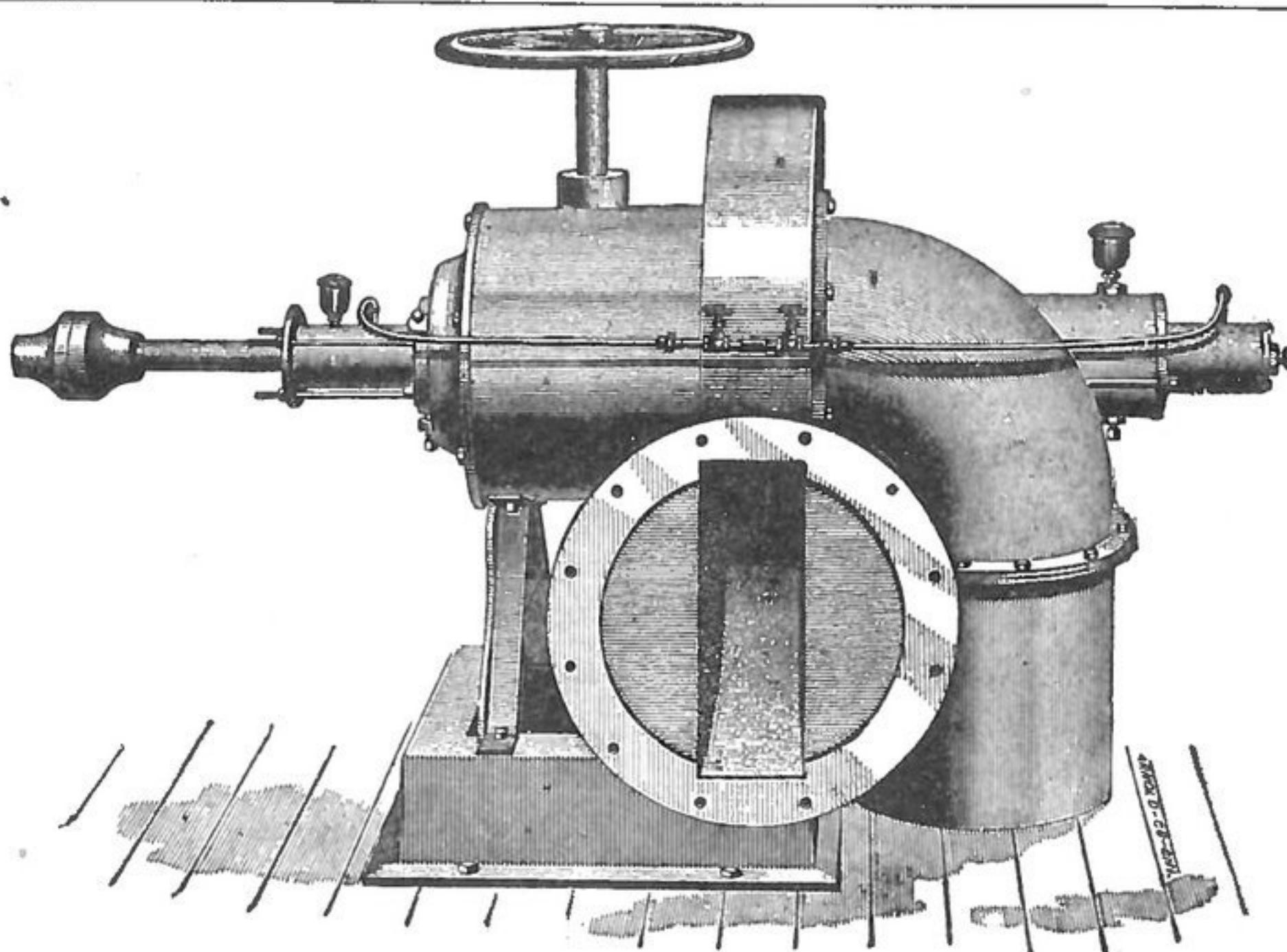
**SPECIALTIES!** { Graham Roller Mills, Round Reels and Scalpers, Sectional Round Reels, Grain Separators, Motion Indicators. Before buying any of these machines send for our prices and descriptive circulars. } **SPECIALTIES!**  
Second-Hand Machinery, and Bargains in Every Line.

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**The Best Turbines!**

VERTICAL OR HORIZONTAL,  
With or Without Iron Flumes,

—BUILT BY THE—



**Flenniken Turbine Co.**  
DUBUQUE, - IOWA.

## EUROPEAN ECHOES.

GLASGOW, Scotland, produce importers report American patentents selling at the following prices per sack of 280 pounds; Minnesota, 31s. 6d. to 32s.; Milwaukee, 29s. 6d. to 30s. 6d.; Kansas hard wheat, 29s. 6d. to 31s.; St. Louis, 31s. 9d. to 32s.; Michigan and Ohio, 31s. 3d to 31s. 9d.; Indiana, 31s. 6d. to 31s. 9d.; and Canada, 27s. to 28s.

EUROPEAN estimates say that the total number of acres under crop in New Zealand in February, 1889, was 1,248,109, of which number 357,359 acres were in wheat, producing 9,424,059 bushels, or an average yield per acre of 26.37 bushels. South Australia had 1,605,000 acres sown to wheat, which produced 6,186,000 bushels, an average yield per acre of only 3.85 bushels. It appears that while South Australia had 1,247,641 acres in wheat more than New Zealand, yet New Zealand produced 3,237,059 bushels of wheat over and above South Australia. Victoria had 1,217,191 acres in wheat, which produced 8,647,709 bushels, or an average of 7.10 bushels per acre. From the above figures it will be seen that Victoria had 860,350 acres sown in wheat more than New Zealand, while the produce of this colony exceeded that of Victoria by 776,356 bushels. New South Wales had 304,803 acres, which produced 1,450,503, an average of 4.75 bushels per acre. The number of acres sown in New Zealand exceeded that of New South Wales by 52,556 acres, while the total yield of wheat in New Zealand was much in excess of New South Wales, 7,973,556 bushels. The average yield per acre in West Australia was 10.50 bushels to the acre, and that of Tasmania 20.15 bushels.

SAYS the London "Miller" of May 26: When will the wheat again be 45s per quarter? was a question asked at the Royal Agricultural Society on Thursday last, as the members met each other to elect the council of the society. The question implied a possibility in the near future, from the effects of the Americans newly appraising the value of silver. No doubt there is much exaggeration in the views of many persons on the silver question, but the common market belief is that, should the United States Senate adopt the bill before them, as they are expected to do, then wheat will be at once 2s. per quarter dearer than at present, and further advances will have to be considered. This idea neutralizes to a great extent the effects of the highly favorable weather enjoyed this week. Private information from Russia states grain-laden craft are grounded in the interior, and, for want of water, can not get down to ports. Of course this is the state only in some districts, but as now the great Taganrog wheat-fields are suffering from drouth, there it seems the summer situation may become of a dearth-like character, particularly as the season became hot much earlier than usual. The following translation of "official advices" up to May 10 state that during the past se'nnight in many places the long wished-for rain had fallen, and the condition of the grain fields and pastures had again improved. However, very extensive tracts are still suffering from the absence of moisture and stand much in need thereof, as upon its supply in May mainly depends the issue of the crops. Thus the opinion is reiterated that the prospects of the harvest are only to be accurately gauged by the condition of vegetable life in April and May. Central and southern Russia appear to be mostly in want of moisture. Russian wheat shipments have now become very large. France keeps mainly firm in its markets despite the present favorable fine and harvest-forcing weather. Possibly the contrast of bonded stocks, being 1,000,000 quarters less than at this date a year ago, is strong enough to keep value steady. Mid-Europe forwards glowing accounts of harvest prospects and may, if they are fulfilled, resume its usual scale of export, which is not now high to this country, but flows in the direction of Germany and Switzerland. India can hardly be credited this campaign with an export of wheat beyond half the quantity of its best recent year. Australia, now represented on the seas by over half a million quarters of wheat, keeps fairly confi-

dent at a level of 36s.; still shippers have lately manifested a disposition to accept lower terms, in competition with lower terms from other exporting countries.

## THE MILLER AND THE POET.

## THE MILLER AND HIS MILL.

Once a jolly miller had a mill, mill, mill,  
Every one was pleased to fill his till, till, till;

The grain went in the hopper,

The stone went whirling round,

And a chorus from the miller

Would through the mill resound:

He'o he, and a heigh-ho-heigh,

There are plenty others for to grind

With the water that goes by.

The miller did not murmur and sigh, sigh, sigh,  
Because a little water went by, by, by,

But heaping up the hopper

High with the yellow grain,

His soul went out in music

In this glad refrain:

He'o he, and a heigh-ho-heigh,

There are plenty others for to grind

With the water that goes by.

A lesson from the miller and his mill, mill, mill:  
If fortune has been heaping in your till, till, till;

If you do have a fortune

To greet you at your birth,

When old enough to know it

Don't scramble for the earth;

He'o he, and a heigh-ho-heigh,

There are plenty others for to grind

With the water that goes by.

Donald R. McGregor in New York "Mail and Express."

## THE POET AND HIS POJUM.

Once a puling poet had a pen, pen, pen;  
Every one did think his brain a wen, wen, wen.

The pen went in the inkstand,

The wen-brain hot did bile,

And a pojum from the poet

Would come in this here style:

"Mush o' mush! And a gush o' slush!

There are plenty victims for to read

All the mushy slush I gush!"

The poet did not tumble nor hush, hush, hush,  
Because the public kicked on his gush, mush, slush;

But, jabbing eke his goose-quill

Into the ink so black,

His wen-brain puled a pojum

With this incessant clack:

"Mush o' mush! And a gush o' slush!

There are plenty victims for to read

All the 'rocky' slush I gush!"

A lesson from this poet and his pen, pen, pen:  
If nature gave you 'stead o' brain a wen, wen, wen,

If you possess an inkstand

Choke-full of fluid black,

Forbear to pule a pojum

With this brain-softening clack:

"Mush o' mush! And a gush o' slush!

There are plenty victims for to read

All the mushy slush I gush!"

Duluth, Minnesota, June 6, 1890.

Bang.

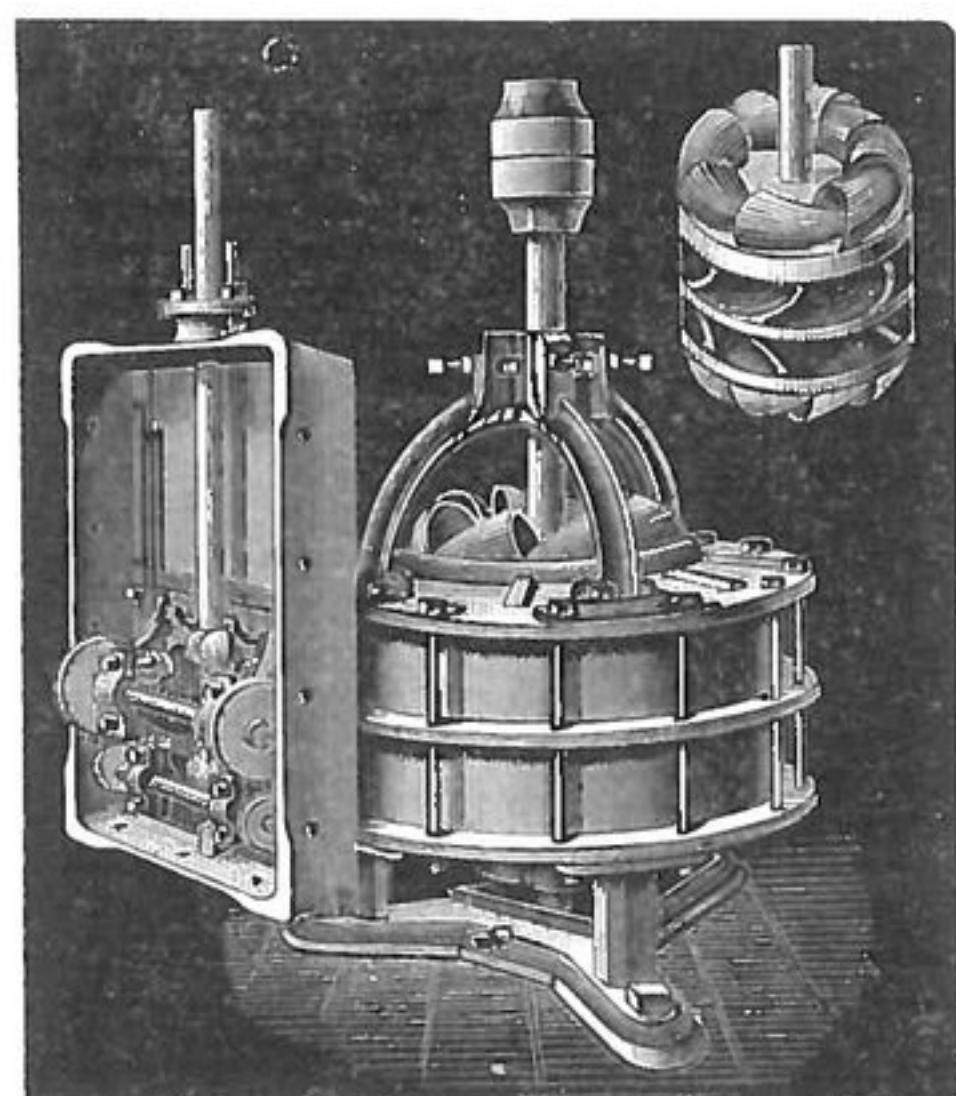
## A NEW METHOD OF TREATING DISEASE.

## HOSPITAL REMEDIES.

What are they? There is a new departure in the treatment of disease. It consists in the collection of the specifics used by noted specialists of Europe and America, and bringing them within the reach of all. For instance the treatment pursued by special physicians who treat indigestion, stomach and liver troubles only, was obtained and prepared. The treatment of other physicians, celebrated for curing catarrh was procured, and so on till these incomparable cures now include disease of the lungs, kidneys, female weakness, rheumatism and nervous debility.

This new method of "one remedy for one disease" must appeal to the common sense of all sufferers, many of whom have experienced the ill effects, and thoroughly realize the absurdity of the claims of Patent Medicines which are guaranteed to cure every ill out of a single bottle, and the use of which, as statistics prove, *has ruined more stomachs than alcohol*. A circular describing these new remedies is sent free on receipt of stamp to pay postage by Hospital Remedy Company, Toronto, Canada, sole proprietors.

# LITTLE GIANT WATER WHEEL



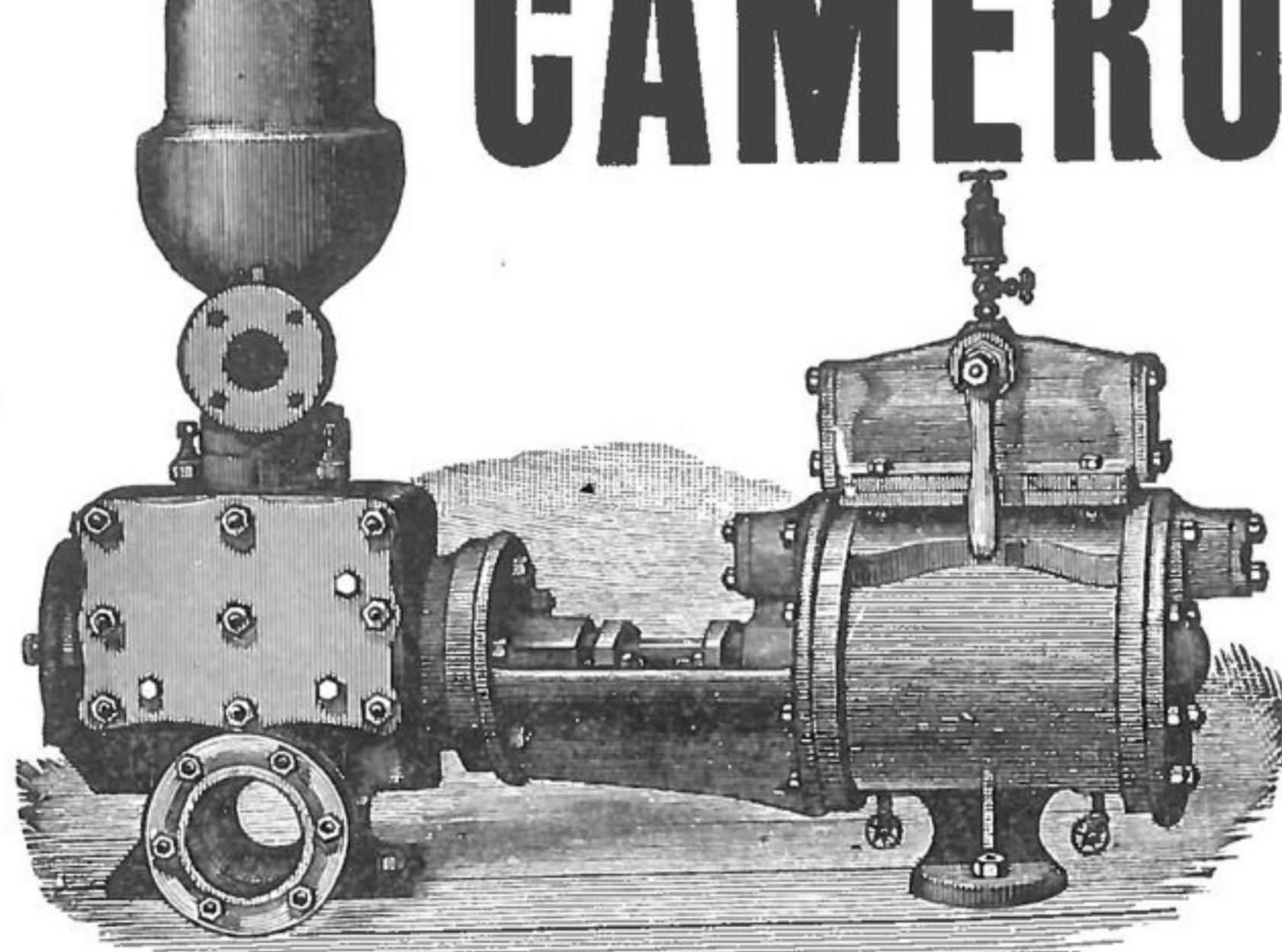
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**MUNSON BROS.**

UTICA, - - N. Y.

Simple in Construction, Durable & Cheap.

**SEND FOR PRICES.**

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*SIMPLE! COMPACT! DURABLE!  
"NO OUTSIDE VALVE GEAR."*

Steam, Air & Vacuum Pumps in Every Variety

FOR ILLUSTRATED CATALOGUE ADDRESS

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Foot of East 28d Street, - - New York.

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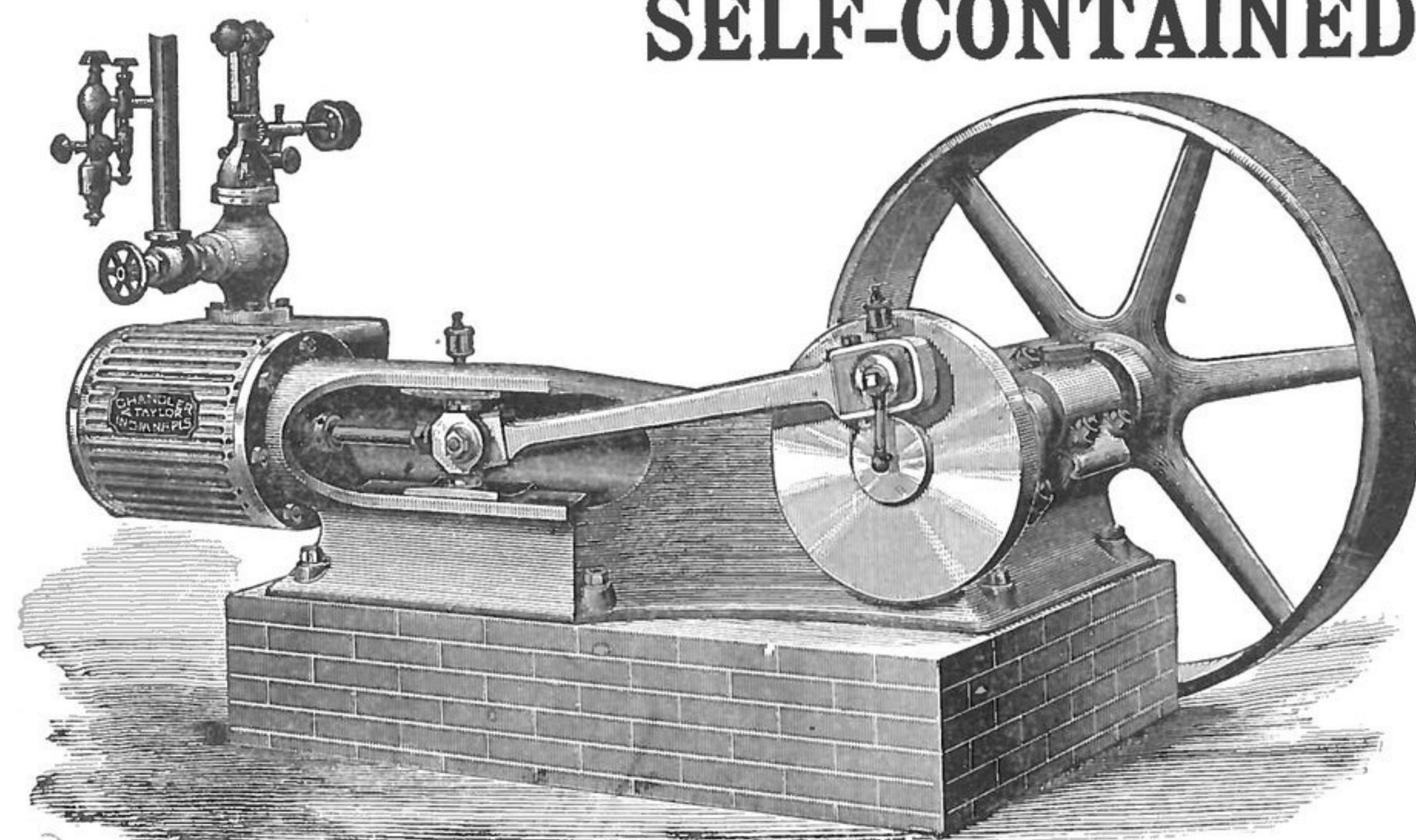
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Semi-Portable.

High Standard Maintained.  
Prices Greatly Reduced.

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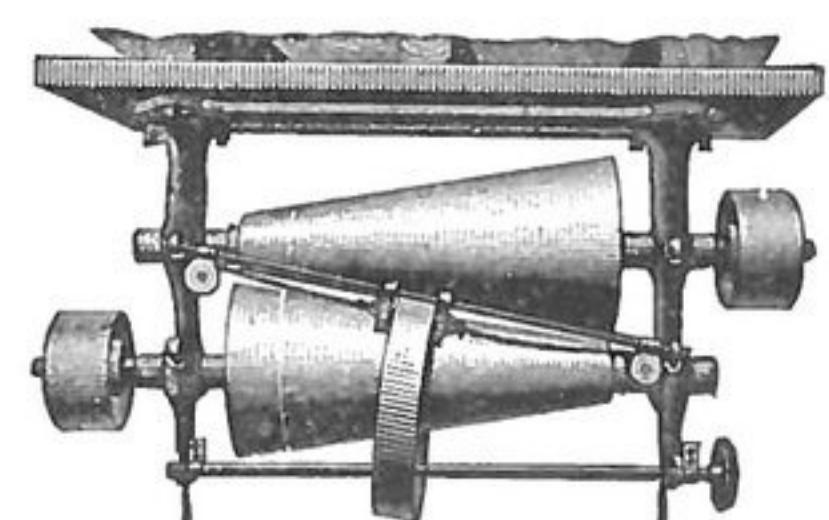
**Chandler & Taylor Co.,**  
**Indianapolis, Ind.**

Engines, Saw-Mills and Drain Tile  
Machinery a Specialty.



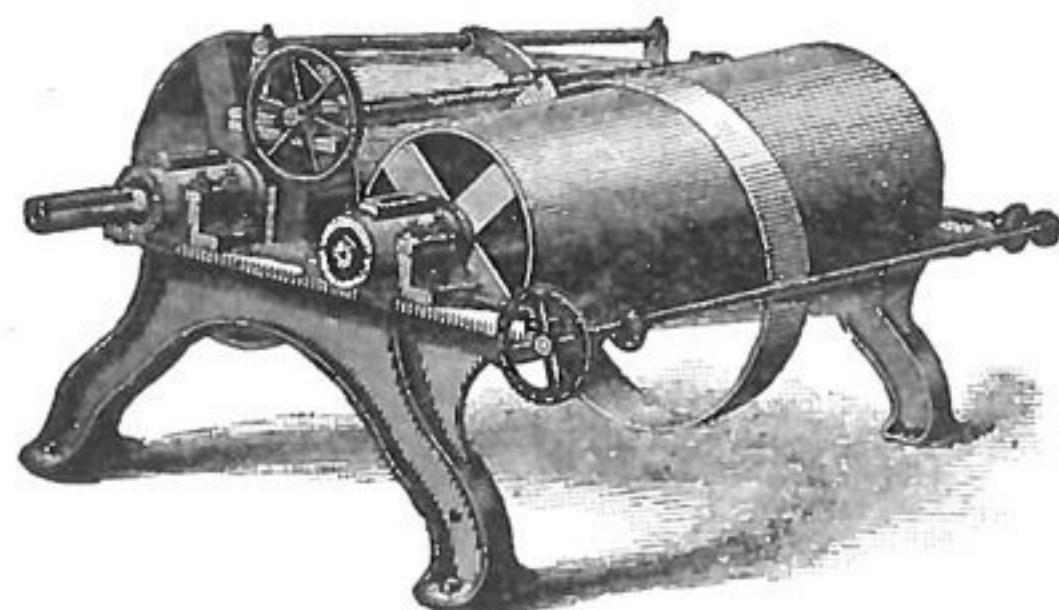
# THE EVANS FRICTION CONE & FRICTIONAL GEARING

"PATENTED."



This cut represents a set of hanging cone pulleys. This pattern is intended for that class of machinery that stops and starts at the same speed, and at the same time be able to change the speed more or less while running. These cones are also fitted with a governor where a steady motion is required and the initial power is

fluctuating. All sizes made from  $\frac{1}{2}$  Horse Power to 50 Horse Power. **SEND FOR ILLUSTRATED CATALOGUE.**



**EVANS FRICTION CONE CO., 85 Water St., BOSTON.**



THE  
GRAIN & FLOUR TRADE

OFFICE OF THE MILLING WORLD,  
BUFFALO, N. Y., June 14, 1890.

Friday of last week was a mixed market day. The opening was dull and higher on bad crop reports, and the closing lower on better crop reports and realizing. In New York June wheat closed at 95½c., with Atlantic port receipts 67,253, exports 2,914, and options 2,360,000 bushels. Tennessee reported wheat crop condition at 58 to 68 per cent. Missouri reported 30,000 acres less in wheat than last year, with condition 5 points lower than a month ago and 20 points lower than a year ago. Southern Ohio reported an average crop outlook. Michigan reported an improvement of 4 points over last month. June corn closed at 41½c., with receipts 193,884, exports 101,635, and options 1,080,000 bushels. It was reported that 75 per cent. of the corn in cribs in the Mississippi valley was under water, but the report did not weaken the market. June oats closed at 34c., with receipts 111,395, exports 100,086, and options 430,000 bushels. Wheat flour was slightly firmer with small trading. Receipts included 4,358 sacks and 19,420 barrels, and exports 47,226 sacks and 1,275 barrels. The minor lines were featureless.

Saturday brought dull and firm markets, on small offerings, shorts covering and bad crop reports. June wheat closed at 95½c., with receipts 8,400, exports 163,053, and options 768,000 bushels. European reports announced that the Austro-Hungarian wheat crop is suffering from rust and mildew. June corn closed at 41½c., with receipts 169,656, exports 197,808, and options 376,000 bushels. June oats closed at 34½c., with receipts 209,404, exports 52,820, and options 35,000 bushels. Wheat flour was dull, with both buyers and sellers indifferent. Receipts were 4,516 sacks and 22,755 barrels, and exports 1,309 sacks and 7,341, barrels. The other lines were quiet.

Monday brought stronger opening and lower closing markets. June wheat closed at 95½c., with receipts 17,483, exports 136,971, and options 2,750,000 bushels. June corn closed at 41½c., with receipts 179,217, exports 431,034, and options 350,000 bushels. June oats closed at 34½c., with receipts 243,741, exports 82,638, and options 500,000 bushels. Wheat flour was slow and neglected. Receipts were 8,276 sacks and 27,971 barrels, and exports 7,571 sacks and 2,743 barrels. The minor lines were unchanged. The visible supply in the United States and Canada was as follows:

	1890.	1889.	1888.
	June 7.	June 8.	June 9.
Wheat	21,791,137	18,892,181	25,752,815
Corn	14,214,009	12,020,287	11,105,065
Oats	6,187,955	6,333,310	5,329,313
Rye	697,400	1,067,239	212,985
Barley	586,811	385,623	262,201

Tuesday was a day of lower and more active markets, on selling by Hutchinson and on better crop and weather reports. June wheat closed at 94½c., with receipts 72,246, exports 10,842, and options 1,984,000 bushels. June corn closed at 41c., with receipts 320,917, exports 239,967, and options 2,248,000 bushels. June oats closed at 34½c., with receipts 382,825, exports 153,925, and options 375,000 bushels. Wheat flour was dull, weak and lower all along the list, with the exception of choice trade winters. The drop is from 5@10c. Receipts were 16,691 sacks and 21,486 barrels, and exports 3,519 sacks and 8,455 barrels. The minor lines were quiet.

The following shows the amount of wheat and flour, together with the amount of corn on passage to United Kingdom, for ports of call or direct ports for the weeks mentioned:

	1890.	1889.
	June 10.	June 11.
Wheat and flour, qrs.	2,887,000	1,581,000
Corn, qrs.	625,000	482,000

The following shows the amount of wheat and corn on passage to the Continent for the past week and for the same week last year:

	1890.	1889.
	June 10.	June 11.
Wheat, qrs.	750,000	302,000
Corn, qrs.	351,000	148,000
Qrs.		
Shipments India wheat to U. K.	25,500	
do do Continent.	17,500	

The imports into the United Kingdom for the past week, the previous week and for the same week in previous year were as follows:

	1890.	1890.	1889.
	June 10.	June 3.	June 11.
Wheat, qrs.	335,000	198,000	240,000
Corn, qrs.	268,000	253,000	170,000
Four, bbls.	170,000	190,000	198,000

Wednesday brought a decided break in the markets on the improvement indicated by the government crop report and on realizing by longs. June wheat closed at 93½c., with receipts 95,369, exports 73,974, and options 6,144,000 bushels. The break in wheat was led by Hutchinson in Chicago. June corn closed at 40½c., with receipts 426,043, exports 329,928, and options 960,000 bushels. June oats closed at 33½c., with receipts 289,656, exports 113,809, and options 180,000 bushels. Rye grain was lower and more active at the following figures: Western full loads 56½c.; Canada 57c. and State 58c. Malt was in better request and steady at the following rates: 85@90c. for city-made Canada, 80@85c. for country do, 75@78c. for six-rowed, and 68@70c. for two-rowed asked. Mill-feed was dull, weak and lower. Spring bran was offered at 72½c. on the track on spot, fancy winter do 80c. City mills were offering at 80c flat for lines and 75c was bid. Winter bran was at 75c. while rye was scarce at 80@82.

Wheat flour was weaker and very dull, with buyers and sellers hopelessly apart on the break in wheat. The buyers made up their minds to wait until it was certain whether wheat grain would break further or rally. Receipts were 3,335 sacks and 18,939 barrels, and exports were 19,081 sacks and 18,749 barrels.

Rye flour was dull, weak and lower, at \$3.00 @3.15. Corn products were dull and easy at the following quotations: Coarse bag meal 79@80c; fine yellow 95c; fine white \$1.00; Southern and Western in barrels \$2.30@2.40; yellow granulated \$2.50@2.60; white do \$2.65@2.70; flour \$2.95@3.20; Brandywine \$2.50

Thursday brought no material changes in market conditions. June wheat closed at 93c., with receipts 60,400, exports 94,900, and options 2,224,000 bushels. June corn closed at 40½c., with receipts 188,550, exports 39,658, and options 360,000 bushels. June oats closed at 33½c., with receipts 84,000, spot sales 128,000, and options 580,000 bushels. Wheat flour was quiet and heavy, with receipts 6,271 and sales 17,160 barrels. Sales were made at the following figures: Low extras \$2.50@3.50; city mills \$4.35@4.55; city mill patents \$5@5.35; winter wheat low grades \$2.50@3; fair to fancy \$3.15@4.90;

patents \$4.50@5.35; Minnesota clear \$3.60@4.50; straights \$3.90@4.85; Minnesota straight patents \$4.40@5.15; rye mixtures \$3.60@4.30; superfine \$2@2.75. The Minneapolis output last week was 59,812 barrels.

#### BUFFALO MARKETS.

WHEAT—The market was very quiet to-day, and little was done. A sale of 1,000 bushels of No 1 hard was made at 95c and No 1 northern is quoted at 94c. A car of No. 2 red sold at 93c but at the close it was held at 92½c. A car of extra No. 3 red was sold at 91c. and latter on another at 90c. A car of No 1 white on track was sold at 93½c. CORN—The market was called steady to-day, and sales were made of No 2 white at 38, 38½ and 38½c. according to color. They were quoted at 38c. at the close. No 3 white sold at 37½@38c. and No 2 mixed are quoted at 38c. and No. 3 do at 37½c. OATS—Prices were firm all day. Sales were reported at 15,000 bushels. No 2 white at 32½c, and 15,000 at 33c. all in store. No 3 do are held at 32½c. on track, and 3 cars were sold at 32c. No 2 mixed are quoted at 32@32½c. on track. RYE—Prices in this market are nominal at 58c. for No 2 in store. OATMEAL—Akron, \$5.45; Western, \$5.25 per bbl.; rolled oats, in cases, 72 lbs., \$3.25. CORNMEAL—Coarse, 75@85c.; fine, 80@90c.; granulated, \$1.50 per cwt. MILL-FEED—City-ground coarse winter, \$14.50 @15.00 per ton; fine do. \$14.50@15.50; finished winter middlings, \$15.00@16.00; coarse spring do, \$14.00@14.50.

#### FLOUR MARKET.

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Patents.....	\$6.50@7.00
Straight.....	5.25@5.75
Bakers.....	4.75@5.25
	Patents ... \$5.50@6.00
	Straight.... 5.25@5.75
	Bakers..... 5.00@5.55

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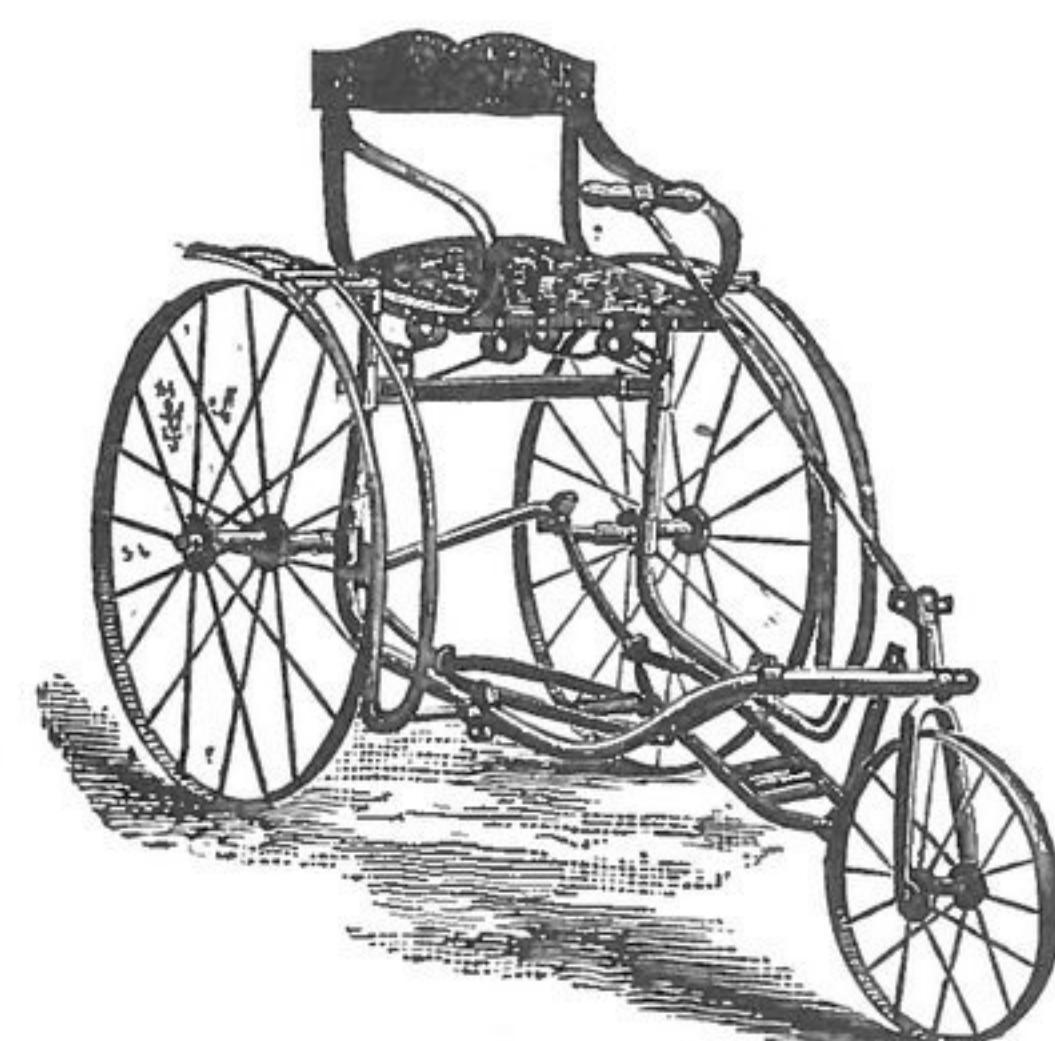
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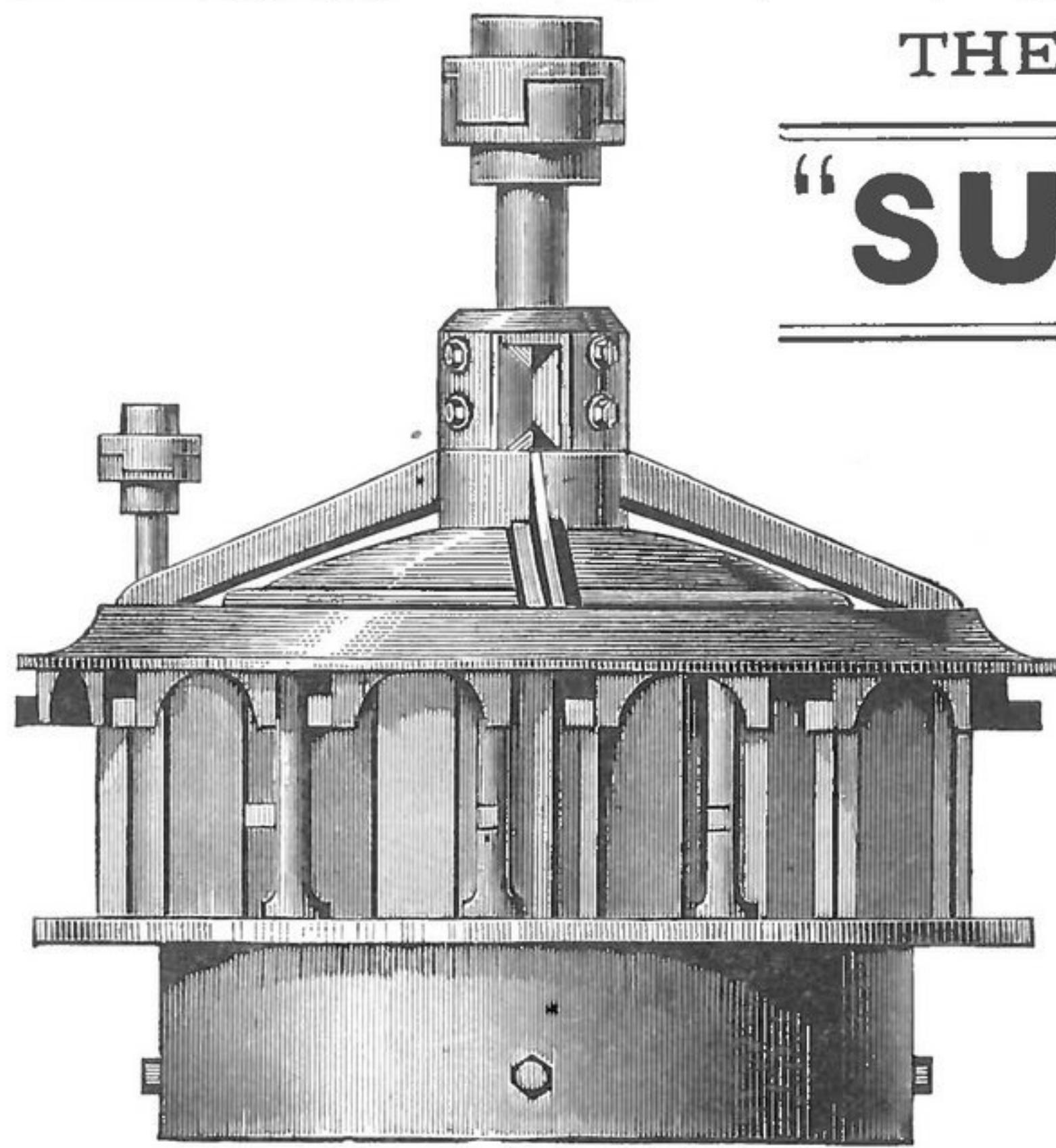
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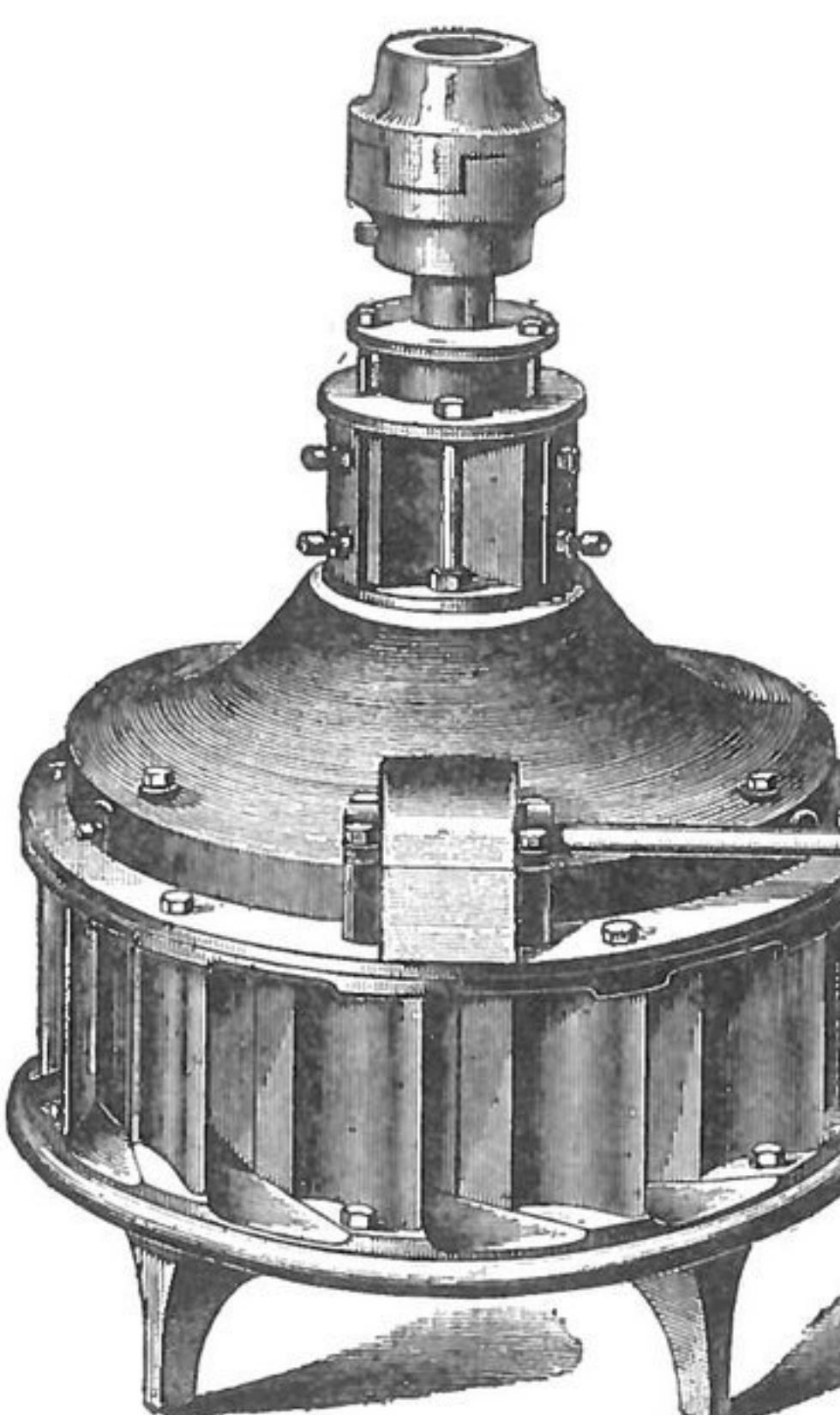
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000.....	.91	3 .....	1.20	8.....	1.50	13.....	2.16	Sprocket Wheels.
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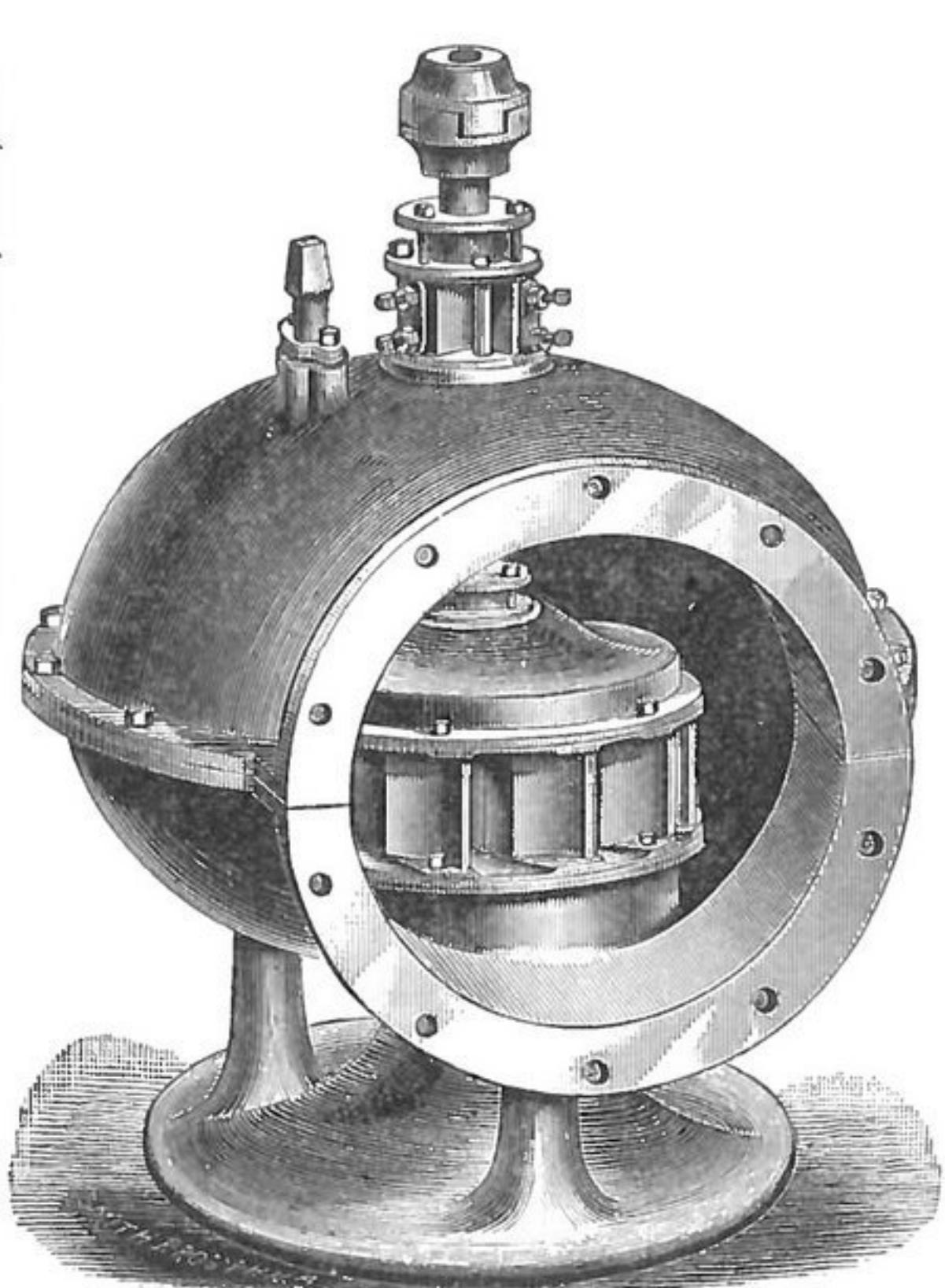
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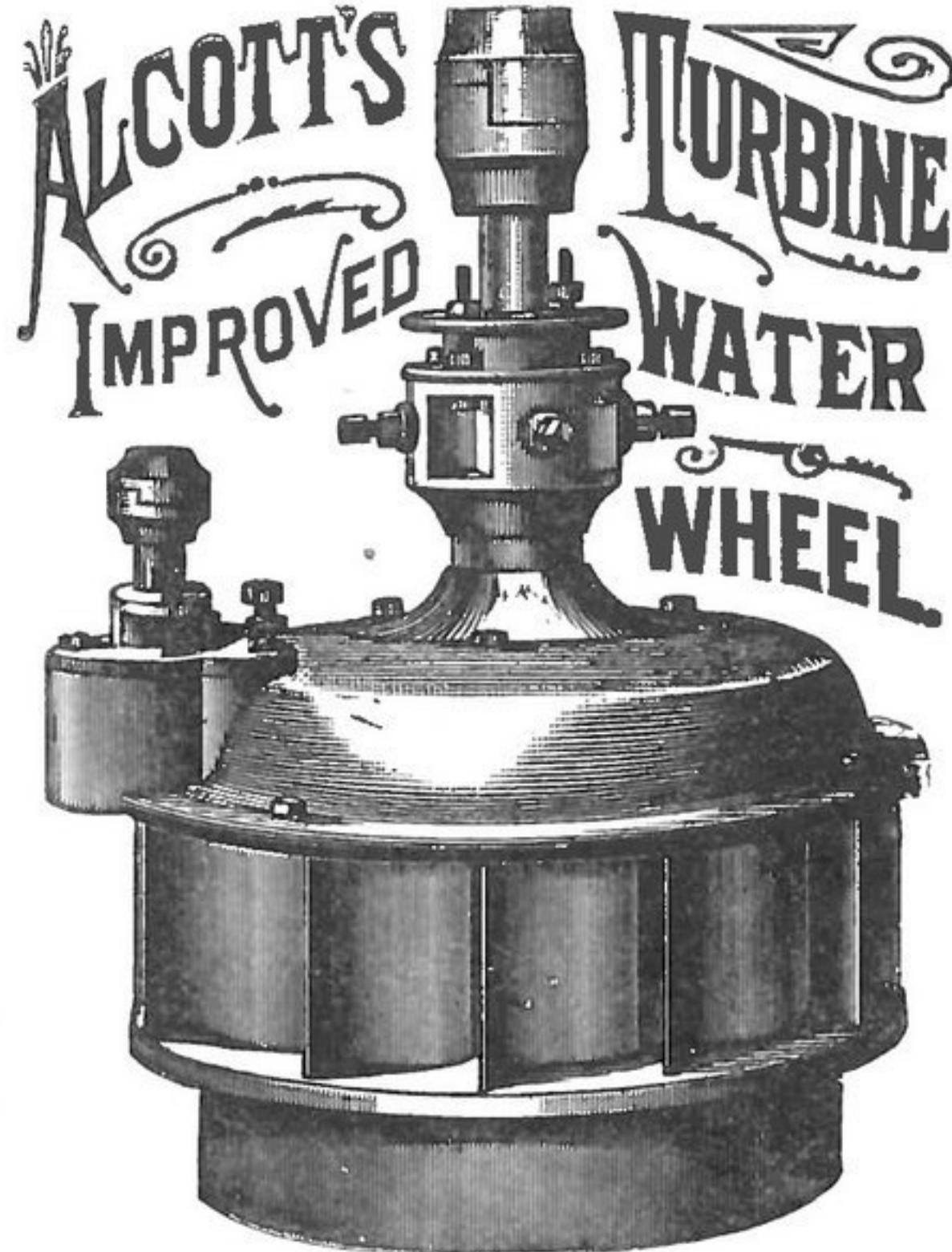
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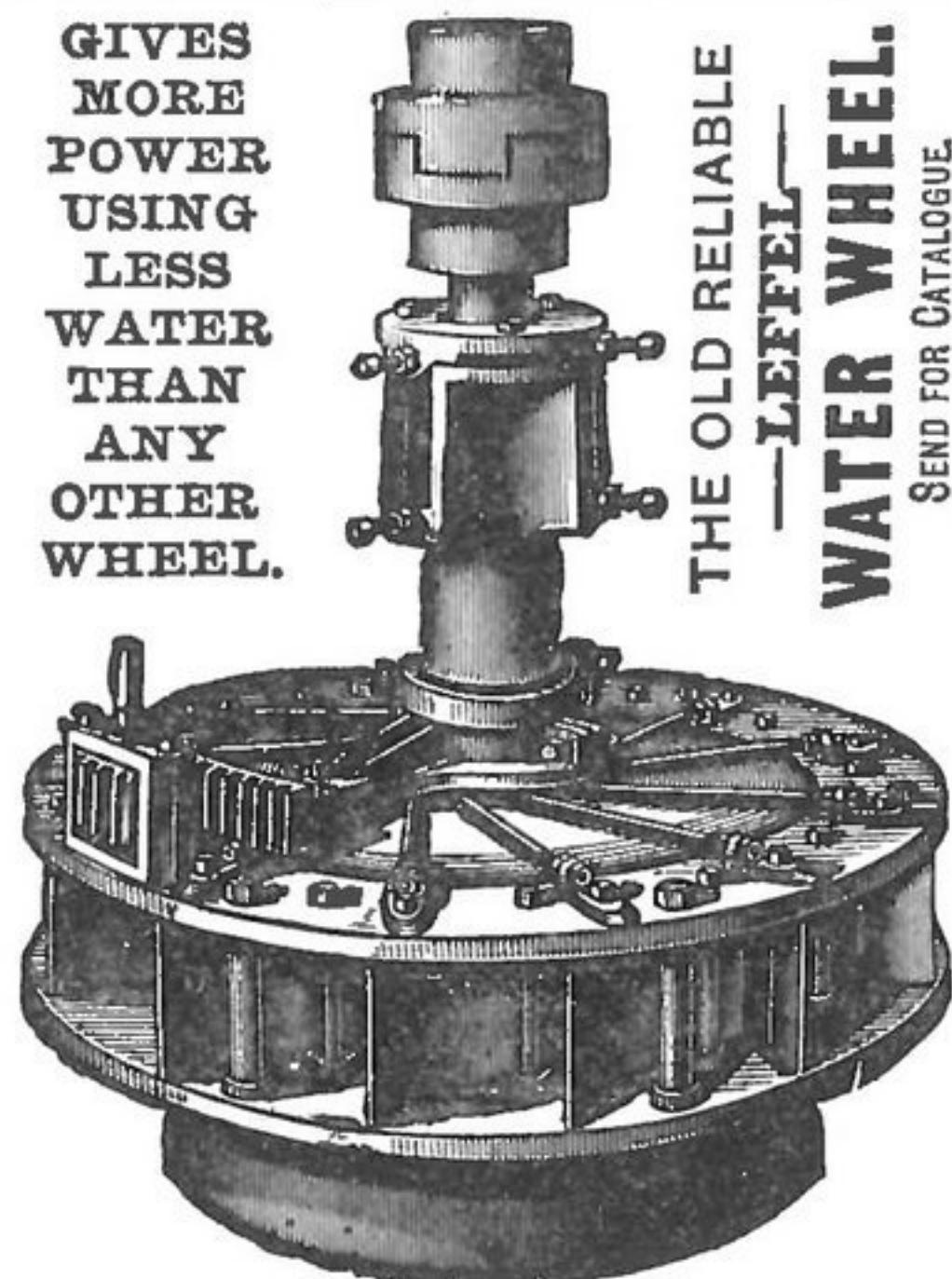


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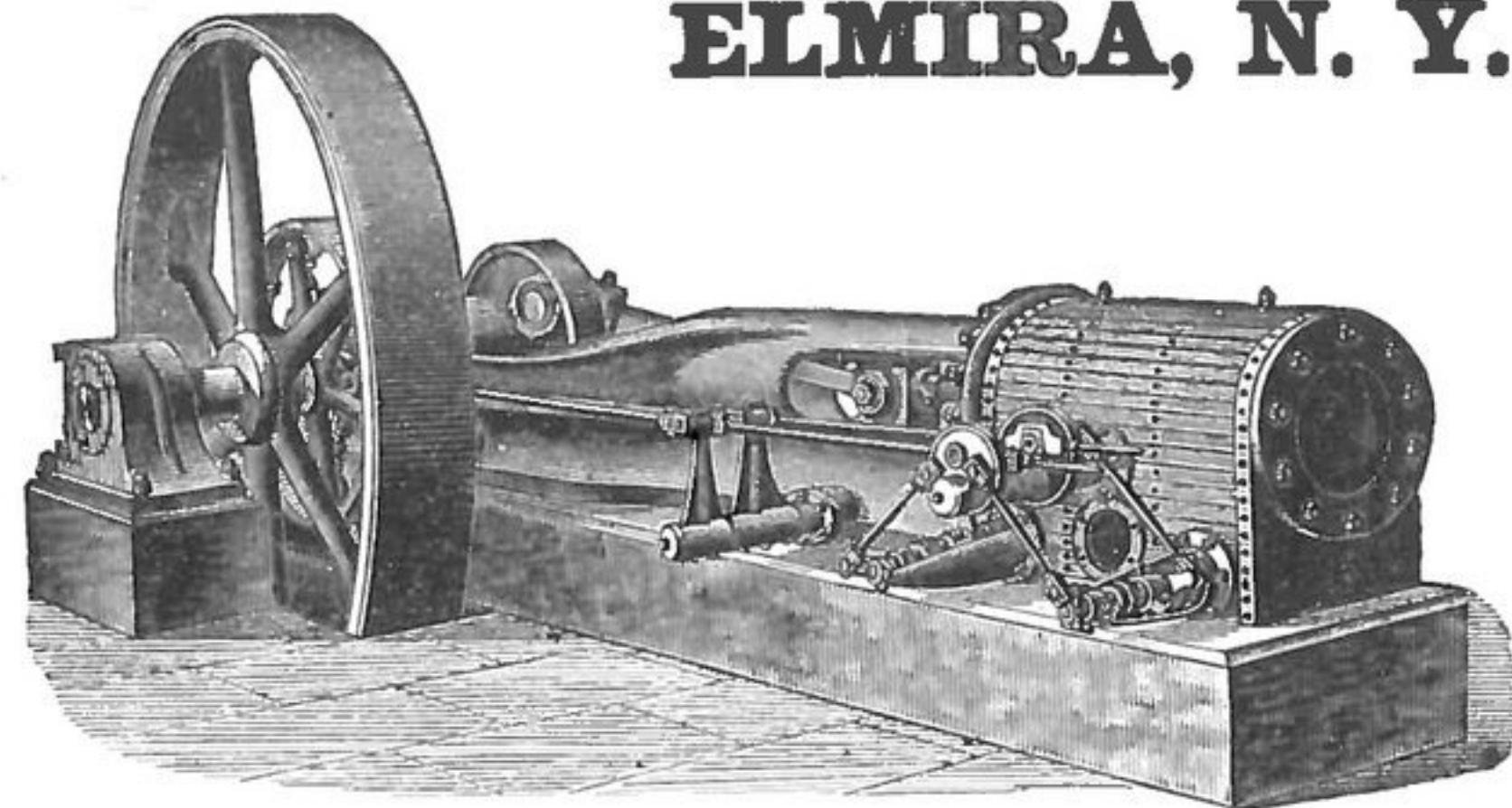
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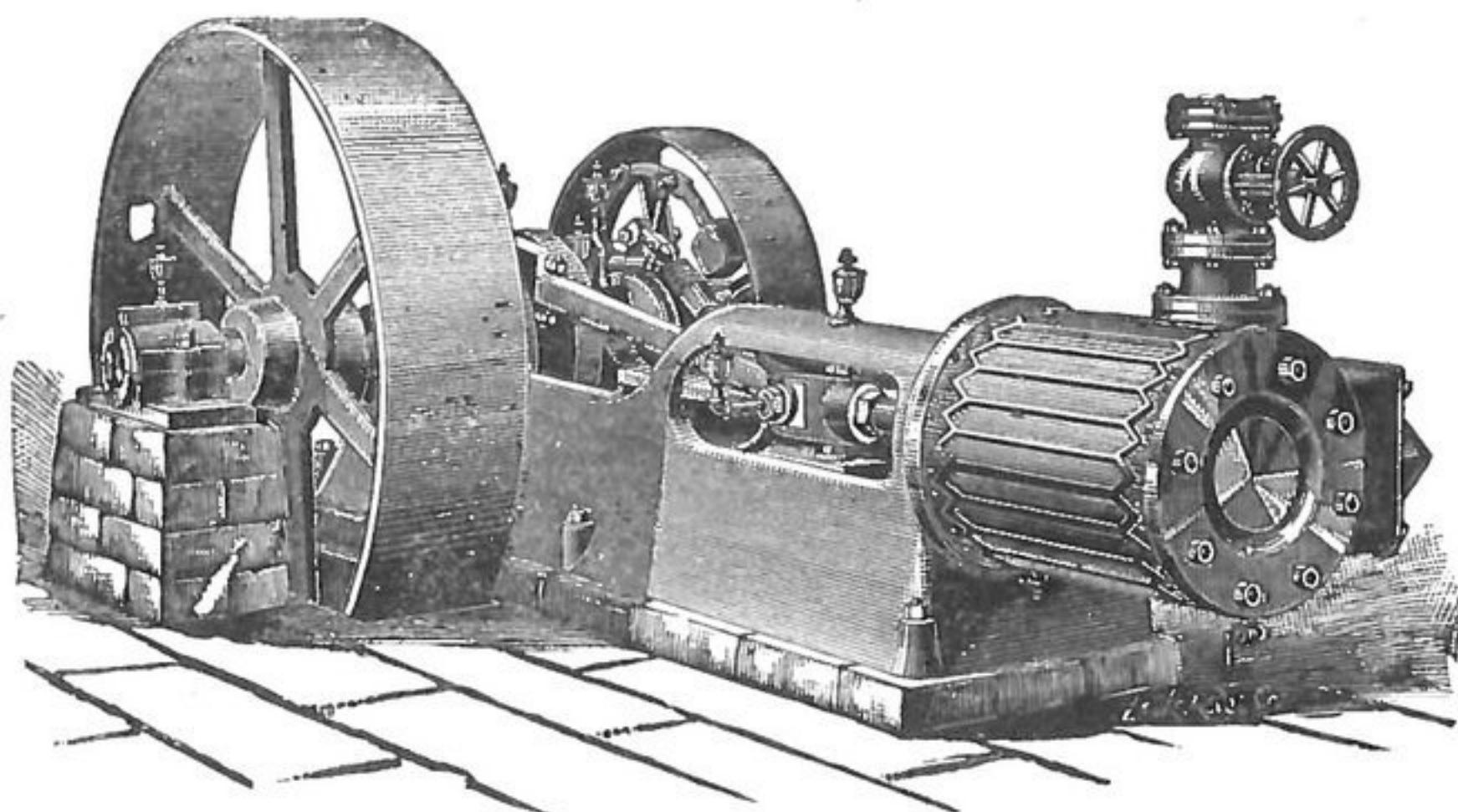
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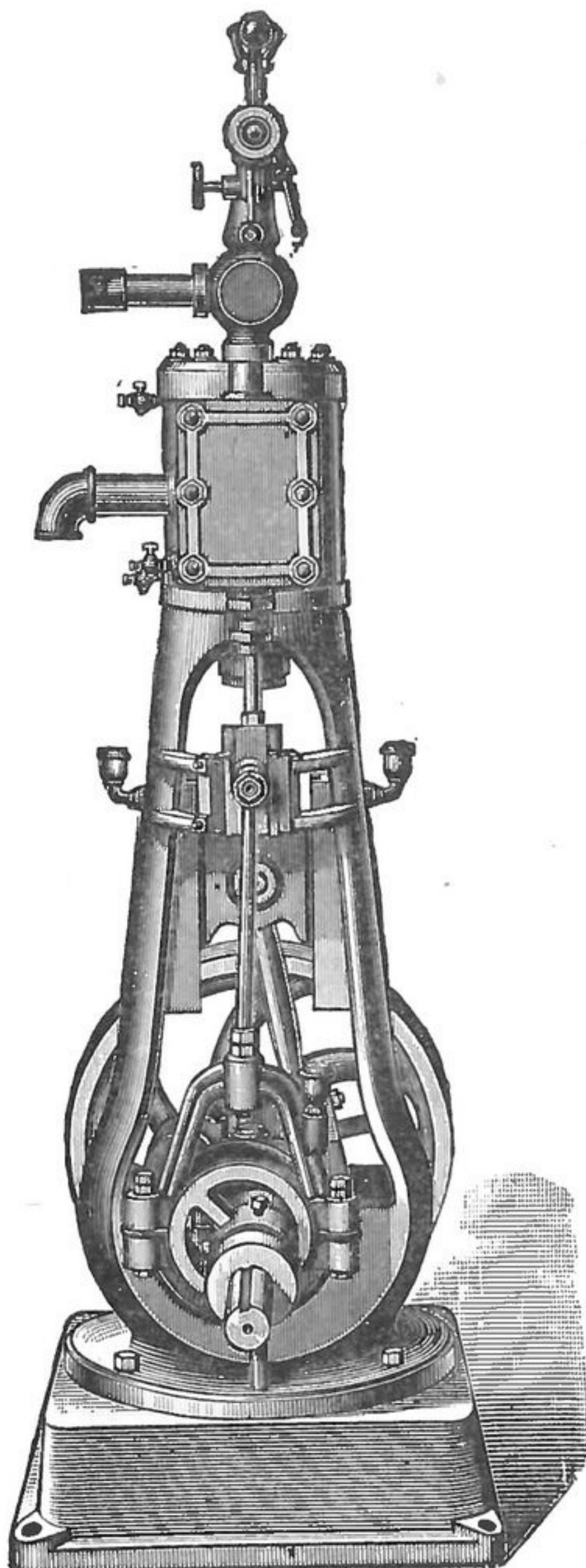
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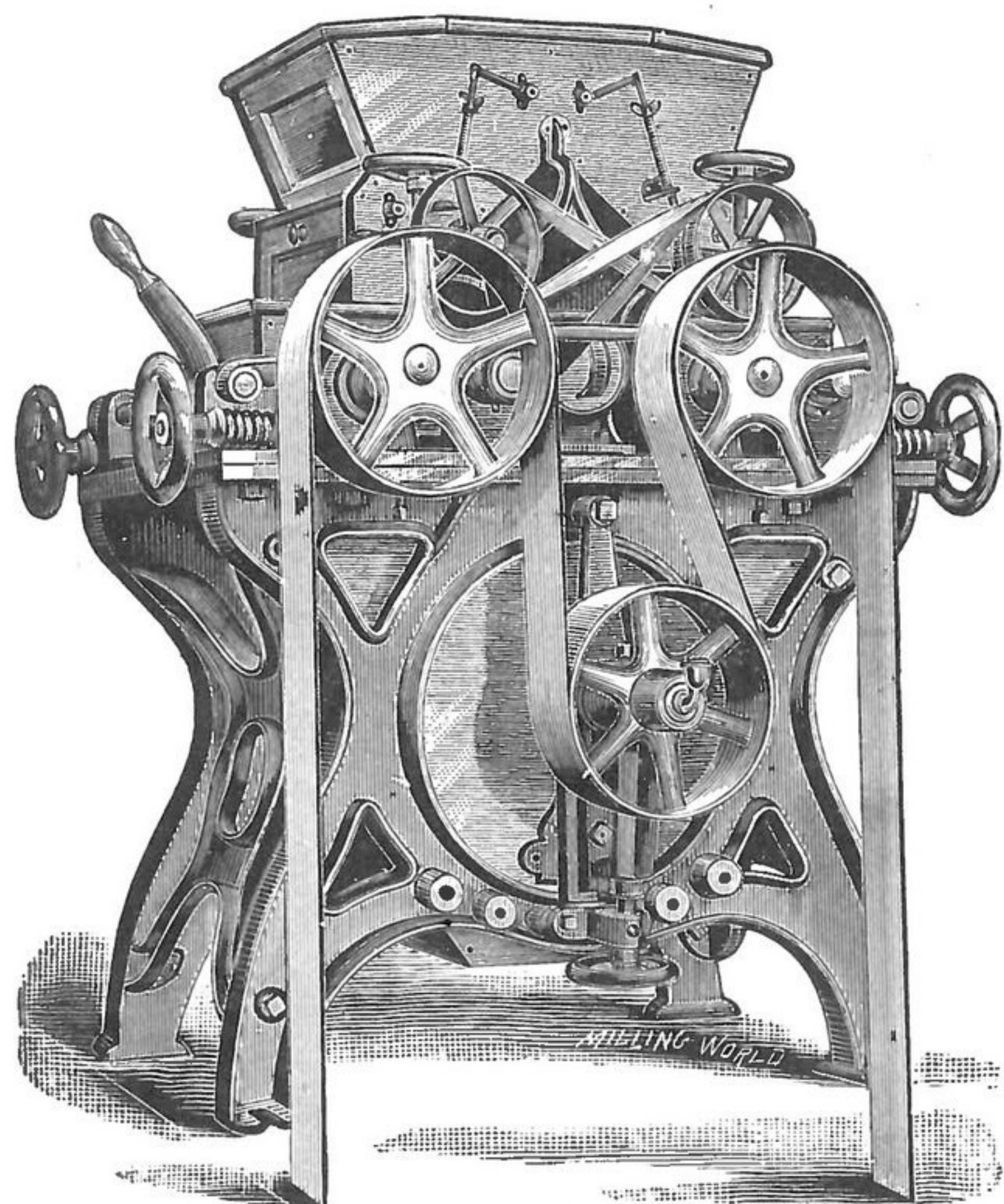


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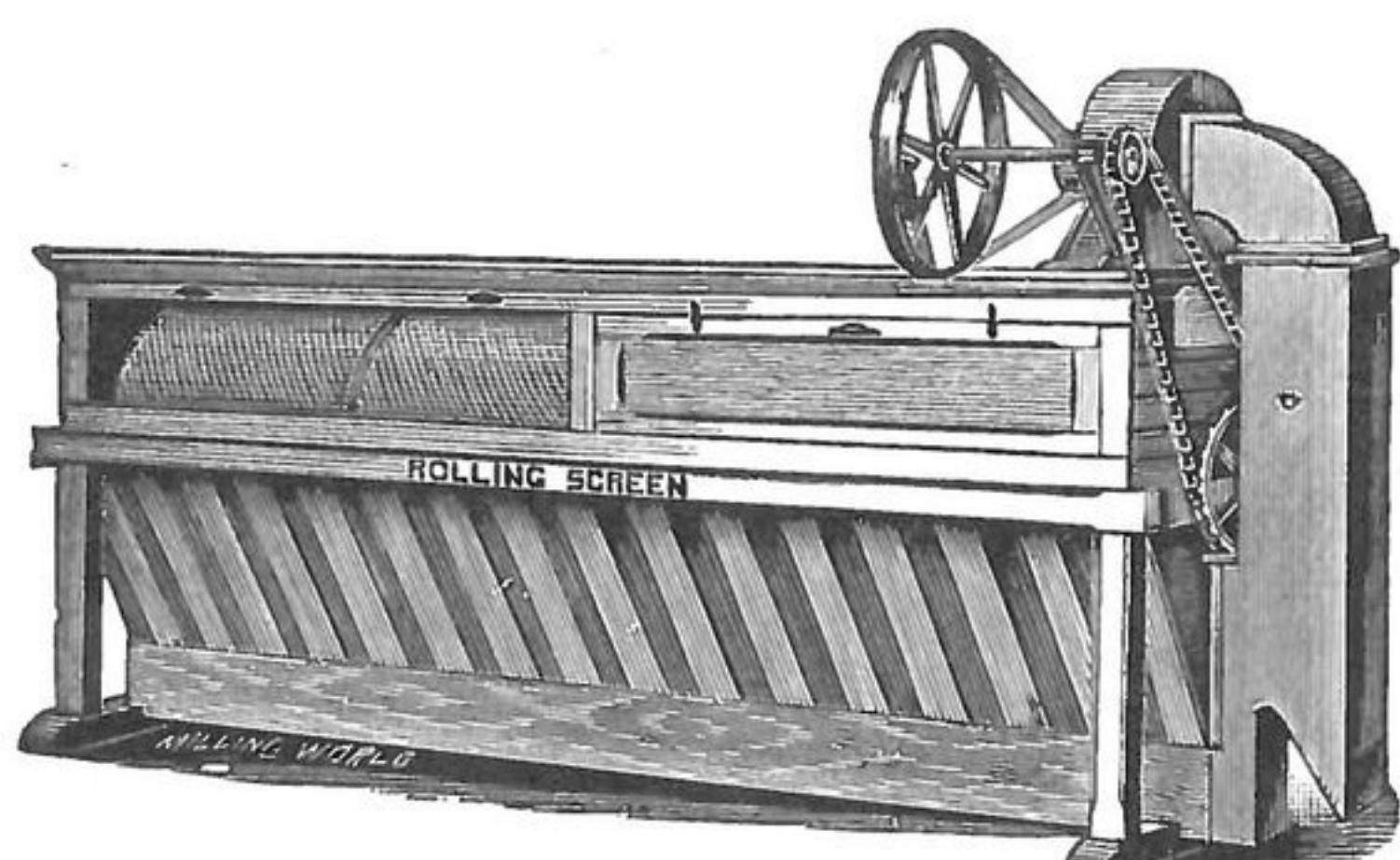
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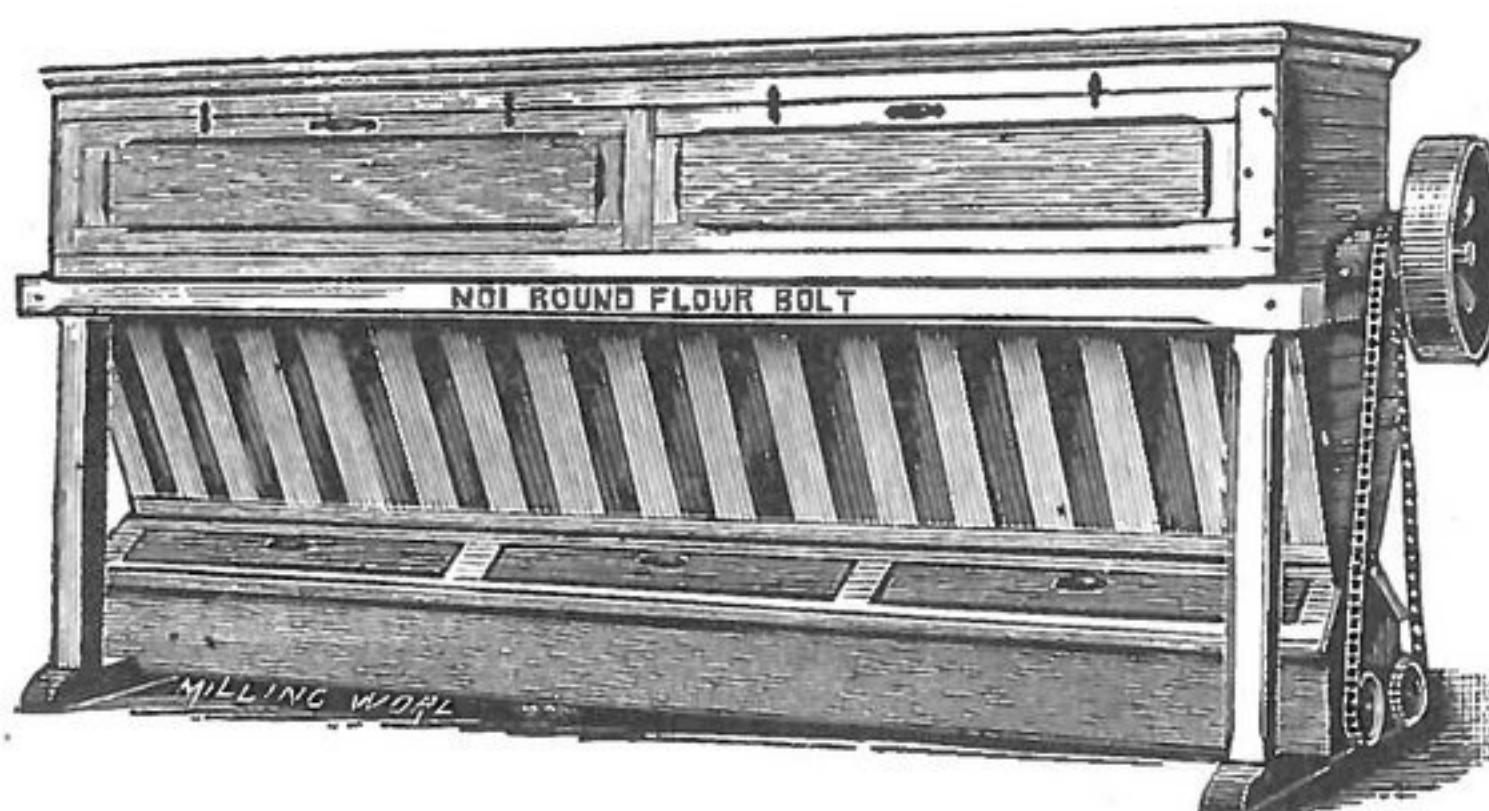
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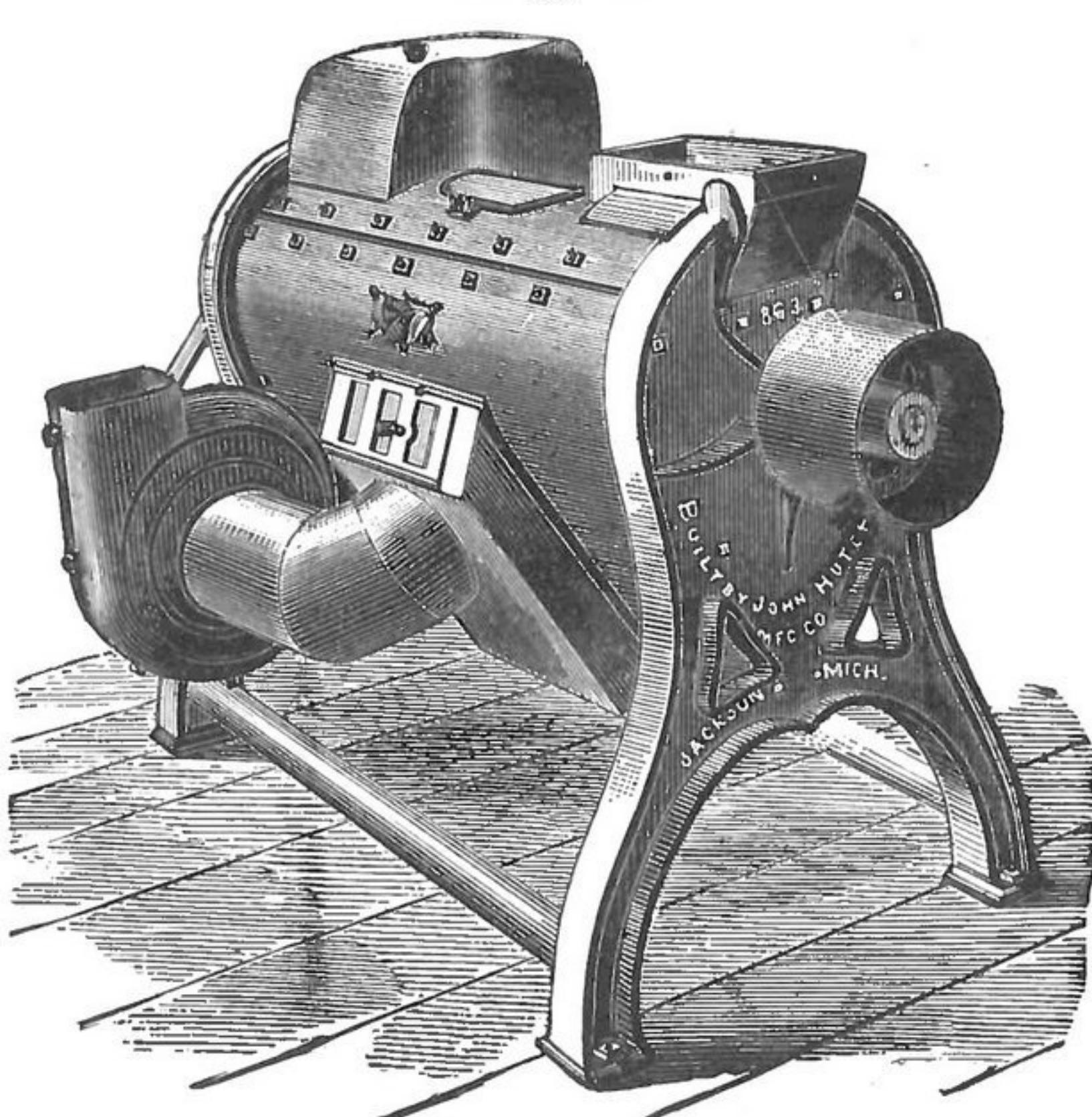


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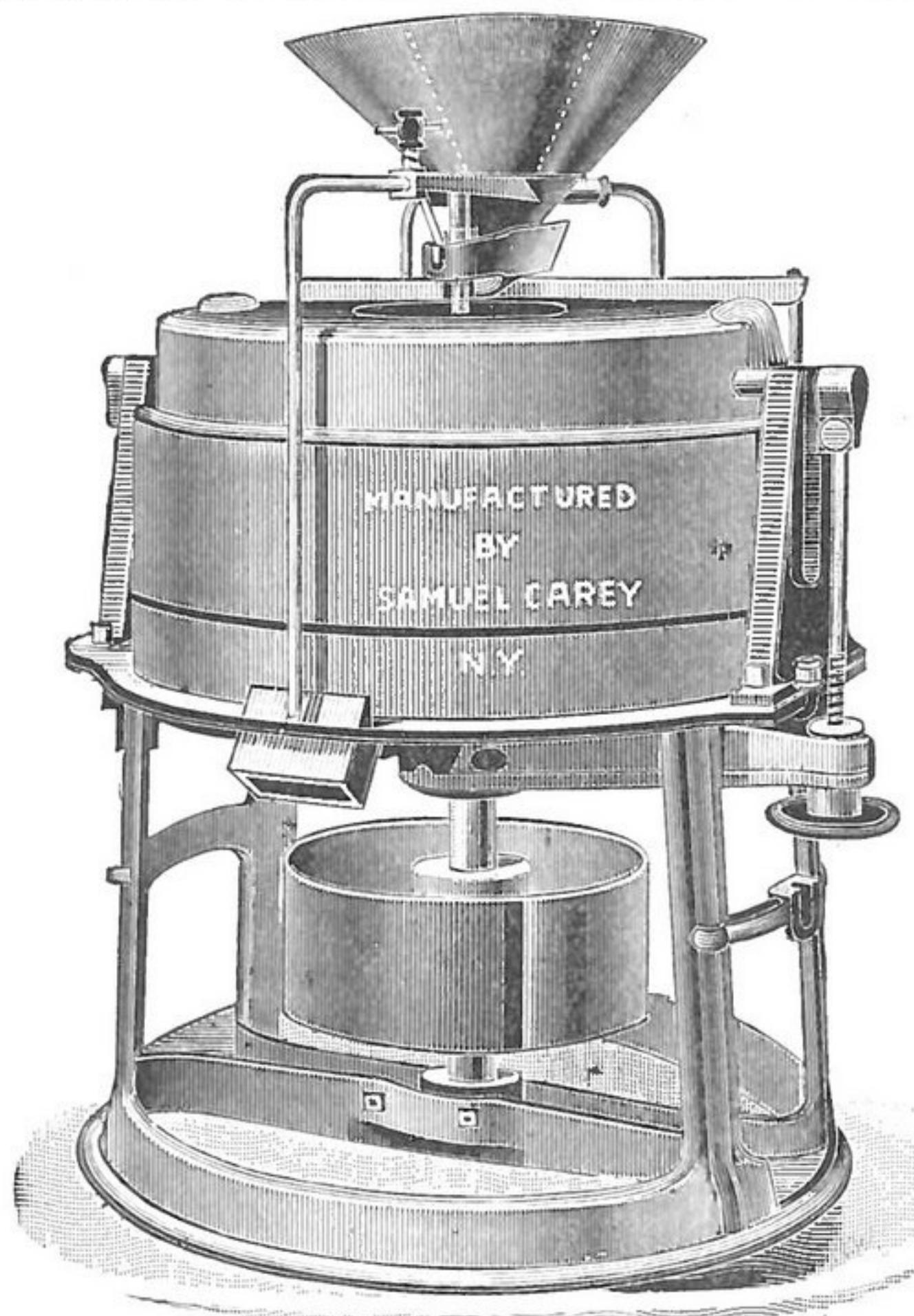
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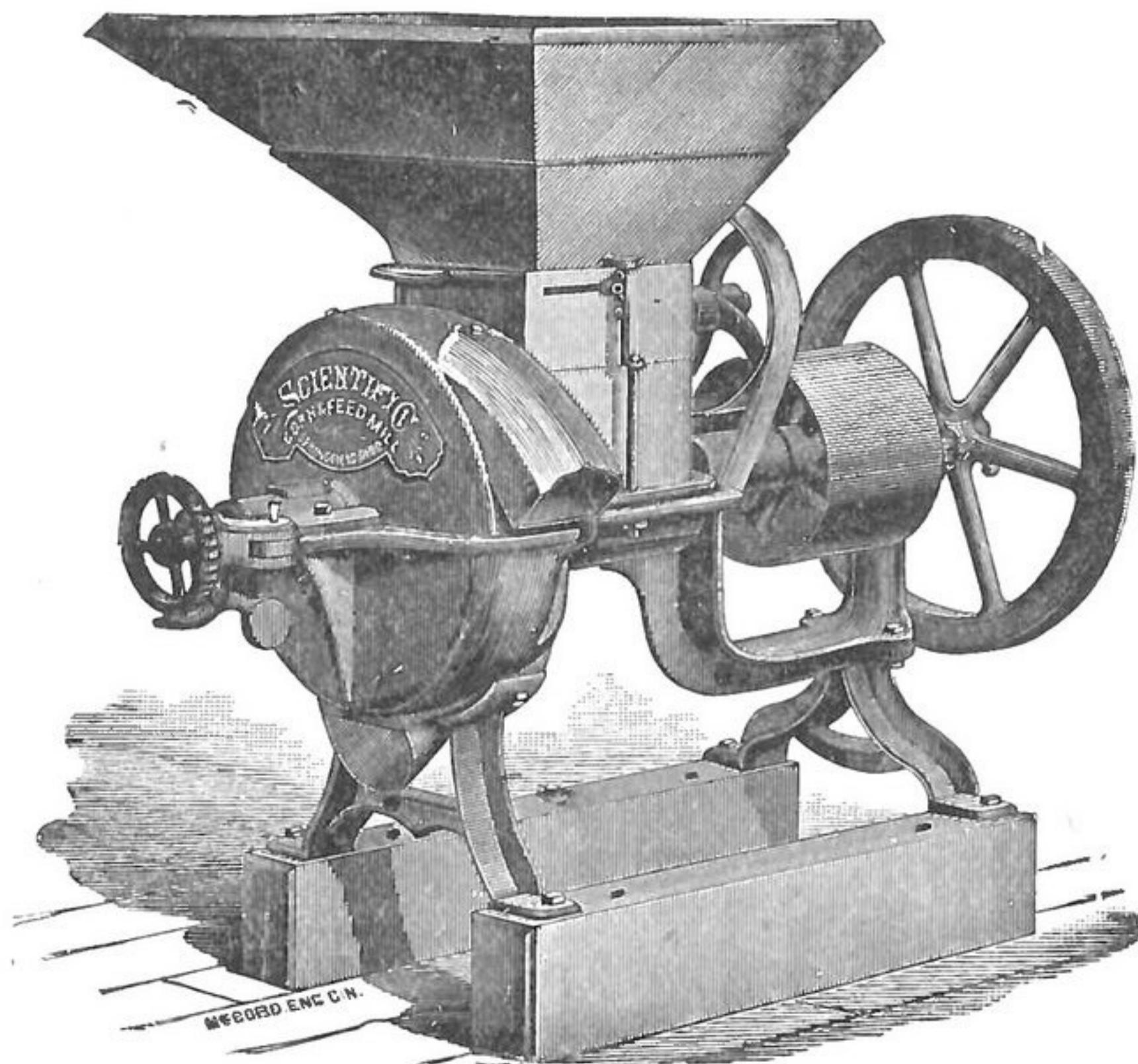
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